



University of Pretoria

Project Governance for Capital Investments

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Declaration

I, Michiel Christiaan Bekker declare that the thesis *Project Governance for Capital Investments* is my own work and that the views and opinions expressed in this work are those of the author and relevant literature references as shown in the reference list.

I further declare that the content of this thesis is and will not be handed in for any other qualification at any other tertiary institute.

Michiel Christiaan Bekker

Date



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Thesis Dedication

I dedicate this thesis to my wife Evandr  and two boys Christiaan and Werner.

Despite the knowledge, materialism and capitalist demands of modern society, the quest to live within the Will of God remains paramount. It determines our family project life-cycle and any deviation from this path will be corrected through the mere blessings, gifts, wishes and talents God bestowed uniquely upon us. The collection of these special blessings in our family sets the path towards God's Will.

Christiaan, your love for people, passion for your interests and special relationship with the Holy Ghost inspires me towards the things that are most important in life.

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Above all, the honour, praise and recognition to our Lord Jesus Christ – beholder of the ultimate Love and Wisdom.

1 Corinthians 13: 9-10;

For our knowledge is fragmentary, and our prophecy is fragmentary. But when the complete and perfect comes, the incomplete and imperfect will vanish away.



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List of Acronyms

AKFED	Aga Khan Fund for Economic Development
APM	Association for Project Management
BEE	Black economic empowerment
BHP	Broken Hills Properties Co Ltd
BLI	Bird Life International
BOOT	Build-Own-Operate-Transfer
BSTDB	Black Sea Trade and Development Bank
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CPGF	Concept Project Governance Framework
CPM	Certified Project Manager
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EBRD	European Bank for Reconstruction and Development
EU	European Union
EV	Earned value
FCO	Foreign and Commonwealth Office
FEL	Front-end-Loading
GAAP	Generally Accepted Accounting Practise
GDP	Gross domestic product
GOL	Government of Lesotho
GoSA	Government of South Africa
IBA	Important Bird Area
IFC	International Finance Corporation
IGM	Interacting group method



IMEC	International Program in the Management of Engineering and Construction
IMF	International Monetary Fund
IPMA	International Project Management Association
IPQMS	Integrated Planning and Quality Management System
IT	information technology
JPTC	Joint Permanent Technical Commission
LCP	Large capital projects
LHWP	Lesotho Highlands Water Project
LFG	Landfill gas
NGT	Nominal group technique
NYSE	New York Stock Exchange
OECD	Organisation for Economic Co-operation and Development
OTML	Ok Tedi Mining Limited
PERT	Programme evaluation and review technique
PFI	Private Finance Initiative
PGF	Project Governance Framework
PMI	Project Management Institute
PMP	Project Management Professional
PNG	Papua New Guinea
PPPs	Public-private partnerships
PUHCA	Public Utility Holding Company Act
RSA	Republic of South Africa
SA	South Africa
SAAS	South African Auditing Standards
SADC	Southern African Development Community
SDI	Spatial Development Initiatives
SEC	States Securities and Exchange Commission



SHE	Safety, Health and Environment
SIG	Specific Interest Groups
SME	Subject matter experts
UNECE	United Nations Economic Commission for Europe
USA	United States of America



Research Summary

The performance of capital projects, in terms of meeting cost, time and performance requirements, has always been questionable. Despite the availability of project management tools, techniques, processes and advanced software applications, the overall non-performance of large capital projects has seemed to stagnate over the past century. Calls by financiers and participating stakeholders have been surfacing since the 1980s for a different approach to the management of development and implementation of capital projects, especially those that extend into multiple countries. Rather than exploring the development of radical new ways for managing the life-cycle of large capital projects, this research focussed on conducting a review of general management areas and their response to institutional failure.

Towards the end of the 20th century the corporate world experienced much turbulence and controversy with respect to responsible financial and corporate management. Various corporate scandals were reported, the result being the development and implementation of various forms of corporate governance principles. The roll-out and application of corporate governance soon became a global imperative with a fairly positive impact on responsible corporate citizenship. Given the success and global acceptance of corporate governance, the potential application of the principles contained in corporate governance guidelines, and even legislation, in the field of capital projects, was investigated. The view of projects as a form of temporary organisation was used to establish the parallel between general and project management practices, resulting in reference to the term *project governance*.

In general project management literature, the term 'project governance' is used in various applications, namely information management protection, project control and even to indicate project portfolio management. However, no commonly agreed upon definition for the term was found. In order to contextualise the term 'project governance', an in-depth literature study was done on the evolutionary development of corporate governance as well as the



characteristics of large capital projects. Given the literature background, a Delphi study was conducted among experienced and knowledgeable project practitioners and academics to establish a common definition and framework for project governance. Two important observations from the Delphi study were first the requirement that project governance should be strongly aligned with corporate governance principles and second and that a typical project governance framework should be fairly generic with flexibility to allow for customisation for specific applications.

Given the input from the Delphi study, two corporate governance frameworks were selected as the basis from which to compile the principle backbone for a Concept Project Governance Framework (CPGF). In order to allow for the multi-country, multi-company participation of large capital projects, especially where established companies from the West are involved in projects in the developing world, the corporate governance frameworks of the United States of America (USA), namely the Sarbanes Oxley Act and the King II Report from South Africa, were used. These two frameworks represented the thinking and corporate drives of the two respective countries, and for that matter, the developed and developing worlds. With input from the Sarbanes Oxley Act, King II, Delphi results and literature review, the CPGF was constructed for testing on various case studies.

The case study research was conducted in two phases. The first phase, also referred to as the primary case studies, comprised an in-depth study on two large projects involving cross-border participation by various local and international companies and stakeholders. Although it was intended to select a mix of successful and unsuccessful projects for the primary study, the unwillingness of project managers involved in unsuccessful projects to reveal information made the inclusion of these project cases not viable for this study. The two primary case studies selected were based on successful projects. The extent to which these projects formally or informally adhered to or did not adhere to project governance principles as stipulated in the CPGF was evaluated. Apart from a review of literature on the primary case studies, the nominal group technique (NGT) was also employed to extract embedded



information from project role players. Their input was documented and incorporated into the CPGF.

In order to confirm the general application of the CPGF, a set of secondary case studies was conducted. These case studies comprised a total of 15 capital projects, selected from various sources and industries. These projects were categorised as being 'successful', 'questionable' or 'a failure'. The reasons for the outcomes were plotted against the existing CPGF criteria and it was evident that the reasons for success or failure could be traced to specific areas in the CPGF. According to the CPGF, the most prominent areas that determined project performance, whether failure or success, were the composition of the steering committee as well as adherence to ethics, responsible conduct and conflict of interest.

Given the results of the research, the study concludes with a proposed Project Governance Framework (PGF) to be applied to large capital projects, especially during the initiation phase of the project. It is believed that adherence to the generic stipulations listed in the PGF will contribute positively to the successful outcome of large capital projects.



Chapter 1: Introduction and Background

1.1 Introduction

Over the past few decades, large capital projects (LCPs) have had a profound impact on world economies, development of countries and broader societies. Mega transportation projects such as the Euro Tunnel, Øresund Bridge and the new Tokyo Airport changed the way people travel, while big dams such as the Three Gorges impacted millions of peoples' lives and their habitat. Private sector projects in the energy and petrochemical industries have had a significant impact on the economic growth of countries and it is evident that there is still no end to development in these fields.

Obviously, where multi-billions of dollars are flowing at an enormous tempo, the territory becomes fertile for opportunism, corruption, greed and misconduct. Providing a controlling or governing environment becomes a necessary evil and the corporate world has reacted strongly by incorporating corporate governance, especially for companies listed on stock exchanges. For the single, large project, no formal governance framework exists and the time may be opportune to investigate the format and structure of a new, generally applicable project governance framework. The positioning of the practice of project management in large strategic initiatives has become crucial. The development of a project governance framework requires sound knowledge of the main drivers for project management performance, the basic principles of corporate governance and the formulation of the concept of project governance.

1.2 Project management

The international community's interest in project management has increased exponentially in recent years (Kloppenbergh and Opfer, 2000). As an organised activity of mankind, projects can probably be found in all



civilisations. Coupled with the accelerating momentum of globalisation, mastering the concepts of project management is viewed by many as a progressive step towards improved productivity, efficiency, effectiveness and competitive advantage.

The definition and development of project management as a management science has attracted contributions from all spheres of private, public and academic institutions, resulting in a plethora of views and concepts. According to Fundahl (1987), the formal definition of project management as a managerial science can be traced back to the introduction of the programme evaluation and review technique (PERT) developed for the Polaris Submarine project during the late 1950s and early 1960s. Subsequently, the further development and introduction of project management as a new managerial approach has provided stimulating debate and creative friction. Melgrati and Damiani (2002) found that the definition and simplification of various project management models has led to the establishment and solidifying of theoretical-epistemological foundations of project management ideology. These foundations have crystallised in various bodies of knowledge, of which the Project Management Institute's (PMI) Project Management Body of Knowledge (PMBok) (2000) is probably the most well-known internationally.

At present, virtually all industries have adopted some form of project management approach, which is typified by the introduction and completion of activities and deliverables through a structured approach of temporary nature, to eventually serve a specific initiative or goal (Koskela and Howell, 2002). However, the resulting questions remain: "Does it work?" Do the introduction of formal project management and the application of the defined tools and techniques create, sustain or destroy value? How is project performance defined?

The following section will attempt to provide clarity on the issue of project performance and success criteria.



1.3 Historical development and current state of project performance

1.3.1 Evaluating measures of project success

What constitutes a successful or failed project? Nicholas (2001:19-21) refers directly to meeting or exceeding compliance with the original triad criteria of cost, time and meeting client performance requirements. Gray and Larson (2000:4-5), Lientz and Rea (2001:15-16) as well as Burke (1999:4-6) share this view in their various approaches to the management of projects and their eventual definitions of success.

However, this question seems to be increasing in complexity and views are multiplying as globalisation and postulation around the topic of project management take form. Apart from different value systems and cultures around the globe, success themes also seem to be time-based and 'fashionable'. Kerzner (1998:6-7) echoes this evolution in project success parameters by referring the historical definition of the completion of activities within time, cost and performance to the expanded modern criteria of:

- With acceptance by the customer/user
- When you can use the customer's name as a reference
- With minimum or mutually agreed upon scope changes
- Without disturbing the main flow of the organisation, and
- Without changing the corporate culture.

Cleland (1986) suggests: "Project success is meaningful only if considered from two vantage points: the degree to which the project's technical performance objective was attained on time and within budget; and, the contribution that the project made to the strategic mission of the enterprise". With Cleland's reasoning as basis, Shenhar, Levy and Dvir (1997) also cross this traditional view by adopting a four-dimensional model measuring project efficiency, impact on the customer, business and direct success, as well as preparing for the future. Pinto and Mantel (1990) provide yet another



derivation to assessing project success or failure and listed as key parameters:

- i) the implementation process itself
- ii) the perceived value of the project by the customer, and
- iii) client satisfaction.

Complimenting the first parameter from Pinto *et al.* (1990), a study conducted by Rwelamila, Talukhaba and Ngowi (1999) provided evidence that, especially in the developing world, group solidarity among stakeholders throughout the project life-cycle could, in many cases, be a key factor in the perceived success or failure by stakeholders, irrespective of the project outcome. Lastly, but not finally, Dvir and Shenhar (1992) considered:

- iv) profitability
- v) level of sales and new orders
- vi) generating new opportunities for new products and new markets, and
- vii) preparing the scientific and technological infrastructure for the development and production of future products.

It is clear from the above paragraphs that measures of project success have moved beyond the traditional cost, time and performance triad. It is evident that salient aspects are becoming more dominant, especially in a globalised environment where Western approaches are being challenged. Despite inconclusiveness regarding project success criteria, research into factors influencing project success continues to evolve around cost, time and operational performance.

1.3.2 How successful are projects?

Scientific and statistically representative research results regarding project performance are not generally available in academic literature. Various reasons could be attributed to the scarcity of results, of which organisational confidentiality, lack of records and protection against poor market perception are but a few. One of the first real quantitative studies published on project



success factors was that by Pinto and Slevin (1988). In their analysis of approximately 600 respondents they found that critical success factors vary across the phases of the project life cycle, with two factors namely mission and client consultation / acceptance being the only two parameters evident in all the project phases studied. Probably the most comprehensive research on the topic of actual performance was done by The Standish Group (1995) in 1994. Even though the research was done mostly on software and information technology projects, the results indicated that, on average, only 16.2% of projects investigated were completed on time and within budget. For larger companies, this figures drops to an average of 9%, with 42% of all projects meeting their original operational intentions. A total of 31% of assessed projects were considered outright failures. With the study being conducted every two years, the latest results of the 2002 survey indicated a marked improvement in on-time and within budget measurements, with 34% of 13,522 projects meeting these criteria (The Standish Group, 2003). Failed projects accounted for 15% of all projects.

Further to the measurement of project success criteria in the information technology industry, Atkinson (1999) questioned the simplistic approach of only evaluating time, cost and quality on projects, especially the quality aspects which he describes as a 'phenomenon' that can vary across the project life-cycle. Atkinson argued that the ultimate measurement should be towards stakeholder satisfaction, but fail to provide any quantitative guidelines and empirically results to substantiate the reasoning.

A more general, industry representative study on project performance was conducted during 1997 by Frame (1999). The study included the results of a global survey on 438 projects, covering private and public industries. The results indicated only 27% of all projects met their original budget, 22% were on time, while 51% met the desired specifications. Supporting this finding, results from a study completed by the International Program in the Management of Engineering and Construction (IMEC) in 2000 (Miller & Lessard, 2000:14) revealed that of 60 large engineering projects with an average capital value of \$ 1 billion, undertaken between 1980 and 2000, 18%



incurred extensive cost overruns. They also found that almost 40% of the projects performed so badly that they were either abandoned totally or restructured after experiencing some sort of financial crisis.

Merrow, McDonnell and Argüden (1988) studied 47 'megaprojects' and found that only four of them came in on budget, with the average cost overrun being 88%. Of the 36 projects that had sufficient data, 26 of them (72%) failed to achieve their profit objectives. Based on this analysis, they concluded that projects with a greater fraction of public ownership, as well as larger, first-of-a-kind, and one-of-a-kind projects exhibit a worse performance. Supporting their observation, Morris & Hough (1987:7-15) also provide a comprehensive list of (especially) cost overruns on large projects.

Flyvbjerg, Bruzelius and Rothengatter (2003:12-21) completed a study in 2003 on the performance of large infrastructure projects. Their research was done on projects such as the Channel tunnel, the Øresund Bridge connecting Denmark and Sweden via road transport, as well as the Great Belt Bridge (serving the same purpose for rail), Denver Airport, Calcutta Metro in India and various others, to be discussed in more detail later in this study. The Flyvbjerg *et al.* (2003) study assessed two main performance measures, namely:

- Cost overrun, and
- Benefit overestimation.

According to their research, the general performance on the above variables of large infrastructure projects was appalling. Table 1.1 illustrates the poor cost performance on some well-known transport projects.

A significant finding from the research was the cost performance since the early 1900s of large infrastructure projects. Figure 1.1 illustrates the cost performance of various projects over a period of approximately 90 years.

Table 1.1: Cost overruns on large transport projects

Project	Cost overrun (%)
Boston's artery/tunnel project	196
Humber Bridge, UK	175
Boston-Washington-New York rail, USA	130
Great Belt rail tunnel, Denmark	110
A6 Motorway Chapel-en-le-Frith/Whaley bypass, UK	100
Shinkansen Joetsu rail line, Japan	100
Washington metro, USA	85
Channel Tunnel, UK/ France	80
Karlsruhe-Bretten light rail, Germany	80
Øresund access links, Denmark	70
Mexico City metro line	60
Paris-Auber-Nanterre rail line	60
Tyne-and-Wear metro, UK	55
Great Belt link, Denmark	54
Øresund coast-to-coast link	26

Source: Flyvbjerg *et al.* (2003)

The data shows no visible trend toward improvement, despite the development and availability towards the end of the century of advanced cost estimation and control techniques.

Flyvbjerg *et al.* (2003:16) summarise as follows:

“We therefor conclude that cost overrun has not decreased in the past ten, thirty or seventy years. If techniques and skills for estimating cost overrun in transport infrastructure projects have improved over time, this does not show in data. No learning seems to take place in this important and highly costly sector of public and private decision-making. This seems strange and invites speculation that the persistent existence over time and space and project type of significant and widespread cost overrun is a sign that equilibrium has been reached: strong incentives and weak disincentives for cost underestimation and thus for cost overrun may have taught project promoters what there is to learn, namely that cost underestimation and overrun pays off. If this is the case overrun must be expected and it must be expected to be intentional.”

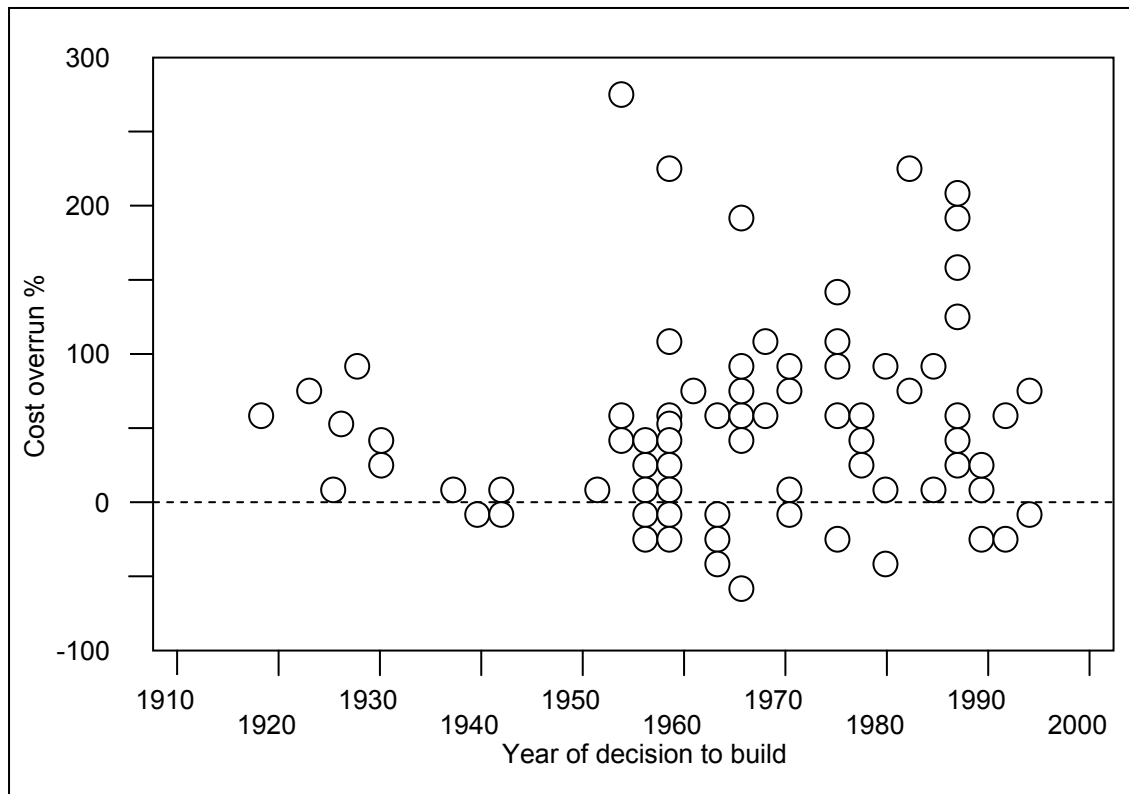


Figure 1.1: A century of cost overrun

Source: Flyvbjerg *et al.* (2003)

Strong words, which resound with subjectivity. Nevertheless, they remain significant enough to address. The technical, financing and organisational complexity of large projects, high capital, power play and potentially conflicting agendas are all factors that could lead to the creation of caveats for mismanagement, poor communication of implied intentions as well as opportunities for exploitation.

With respect to benefit overestimation, some startling findings have been published by Skamris (Flyvbjerg *et al.*, 2003:25) on recent (since 1970) large transport related projects. The findings are presented in Table 1.2 below and indicate the percentage of actual traffic with respect to original forecast traffic during the opening year.

The original traffic forecast encapsulates the project benefit and is usually the prime motivation to launch a large infrastructure project. Although it is expected that the actual traffic will not necessarily correspond 100% to the

original estimate, deviations of more than 50% less than originally anticipated leave more questions than answers.

Table 1.2: Benefit overestimation

Project	Actual traffic as percentage of forecast traffic during the opening year
Calcutta metro, India	5%
Channel Tunnel, UK and France	15%
Miami metro, USA	18%
Paris Nord TGV line, France	25%
Humber Bridge, UK	25%
M65 Huncoat Junction to Burnley Section, UK	35%
Tyne-and-Wear metro, UK	50%
Mexico City metro	50%
Denver International Airport	55%

Source: Flyvbjerg *et al.* (2003)

These figures support the observation of Flyvbjerg *et al.* (2003:16) that politics can lead to deliberate underestimating of cost and overestimating of benefits as a means to get projects accepted.

The significance of performance or non-performance of large infrastructure and industrial projects cannot be overemphasized. In all countries, large infrastructure and industrial projects form the foundation and cornerstone of economic and societal development, while the maximisation of their benefits supports the medium to long-term sustainability of a country as a whole. Therefore a better understanding of the internal process, definition and management of these large projects is pivotal and will be the focus area of this study. The eventual control and steering of these projects, and subsequent performance (or rather lack thereof) in terms of predetermined benefits and variance from original cost estimates, forms the departing platform of this research.



1.4 Factors influencing project success

Even though the topic for investigation might seem relevant, necessary and logical, researchers are quick to acknowledge that research in the field of project management is complex and very much in the exploratory stage. By its very nature, project management is multi-dimensional and multi-disciplinary, covering all aspects of industry and society; thus exposing itself to various forms of internal and external influence. These characteristics are emphasised by various results from empirical and quantitative studies done over the past 25 years. Many of the results are claimed to be statistically representative of the total population and therefore derive specific findings and recommendations. In view of the indicated poor performance of projects, the following paragraphs will review some of the results of research efforts in measuring and evaluating project performance. Most of the past research aimed at finding the main drivers of poor project performance, even though no general consensus exists as to what a successful project entails. Despite the lack of overall agreement, an attempt will be made to conclude with a general consensus regarding causes of project failure.

The investigation into factors influencing project outcome can only be justified by postulating that the result might also shed some clarity on the concept of project success. Thus, the rationale behind reviewing the factors influencing project success is argued from the assumption that commonality in factors influencing project success will improve the definition of project success itself.

Belassi and Tukul (1996) provided a summary of various authors' and researchers' findings on the factors influencing project success. The first seven columns reflect the findings from Belassi and Tukul (1996) and included contributions, with dates of their respective publications, by authors such as Martin, Locke, Cleland and King, Sayles and Chandler, Baker, Murphy and Fisher, Pinto and Slevin, as well as Morris and Hough. Together with other publications such as Gioia (1996) and Black (1996) an updated list of results is provided in Table 1.3 (Factors Influencing Project Success).



Two aspects are evident from the table. Firstly, there is no universal, commonly agreed upon list of causes for project failure or success. It is also alarming to note that the references claim to provide representative results, with seven out of the nine lists being peer reviewed. This phenomenon adds to the dilemma of a lack of commonly agreed upon definitions of project success parameters. These results, mostly from empirical studies, raise quite a few questions for instance:

- Do we really understand the concept of a project and its behaviour through the life-cycle?
- Do projects differ more across industries than is generally realised, making generalisation subjective?
- Could the type of project influence the success parameters?
- Could different types of projects have different causes of failure?
- Do we need to rethink the framework of project management to obtain alternative epistemologies and insights?

These questions surely require close attention for conceptual clarity on project characteristics.

Table 1.3: Factors influencing project success

Martin (1976)	Locke (1984)	Cleland & King (1983)	Sayles & Chandler (1971)	Baker, Murphy & Fisher (1983)	Pinto & Slevin (1989)	Morris & Hough (1987)	Gioia (1996)	Black (1996)
Define goals	Make project commitments known	Project summary	Project manager competence	Clear goals	Top management support	Project objectives	Understanding complexity	Planning
Select project organisational philosophy	Project authority from the top	Operational concept	Scheduling	Goal commitment of project team	Client consultation	Technical uncertainty innovation	Lack of internal communication	Change of scope
General management support	Appoint competent project manager	Top management support	* Control systems and responsibilities	On-site project manager	Personnel recruitment	Politics	Non-integration of key elements	Project manager competence
Organise and delegate authority	Set up communications and procedures	Financial support	* Monitoring and feedback	Adequate funding for completion	Technical tasks	Community involvement	* No measurable controls	Scheduling
Select project team	* Set up control mechanisms	Logistic requirements	Continuing involvement in the project	Adequate project team capability	Client acceptance	Schedule duration urgency	Requirement creep	Management support
Allocate sufficient resources	Progress meetings	Facility support		Accurate initial cost estimates	* Monitoring and feedback	Implementation problems	Ineffective implementation strategy	Funding
* Provide for control and information mechanisms		Executive development and training		Minimum start-up difficulties	Communication	Financial contract legal problems	Dependency on software tools	Cost containment
Planning and review		Project schedule		* Planning and control techniques	Trouble-shooting		Contractor / customer expectations	Resources
		Market intelligence		Task vs. social orientation	Characteristics of the project team leader		No shared 'win-win' attitude	* Information management and control
		Manpower organisation		Absence of bureaucracy	Power and politics		Leadership and sponsorship	Incentives
		Acquisition			Urgency		Education	Risk analysis
		* Information and communication			Environment events		Not viewed as a start-up business	



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Secondly, and to some extent encouraging, is the general consensus that 'control' or lack thereof, is a major contributor to project failure. In total, eight of the nine authors suggest this item to be important (see **bold** items). However, if there was uncertainty regarding the other characteristics of the project life cycle, (stakeholder involvement, objectives, funding and numerous other project variables), control would also be a fallacy.

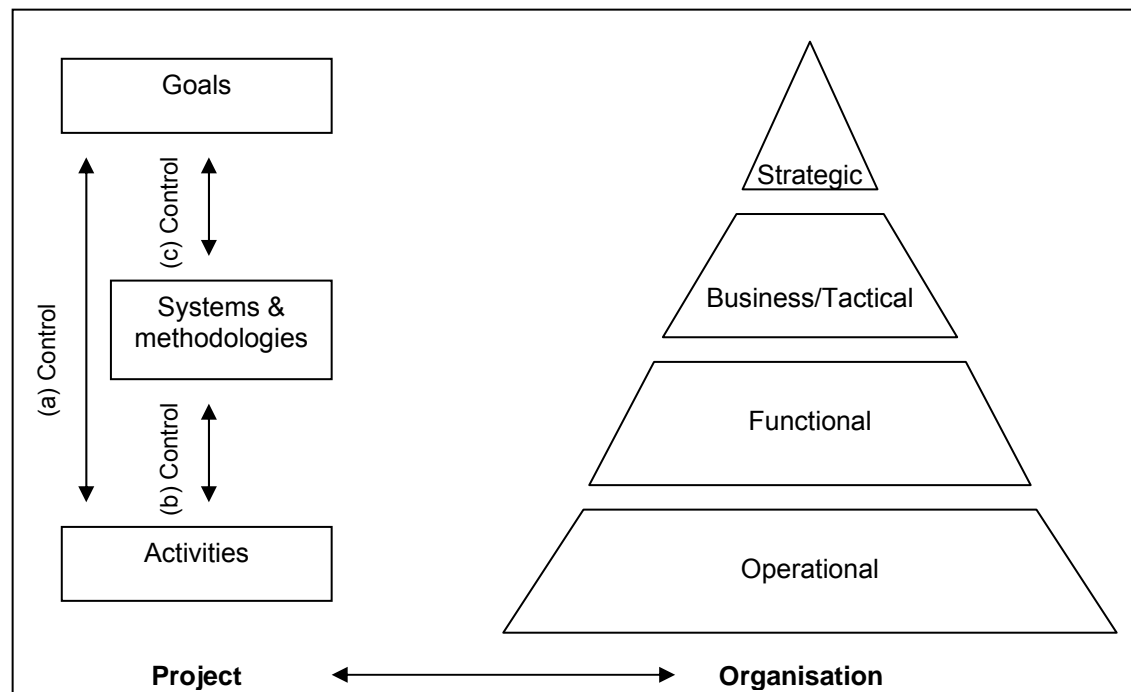
A major shortcoming evident from the research summarised in Table 1.3 is the focus on project control at project manager and lower levels. Control is largely internally focused towards the already defined and approved project. The control mostly addresses day-to-day activities of approved projects through the utilisation of project control tools such as scheduling software, cash flow monitoring, deviation tracking, prevention of scope creep and risk management tools. The challenges surrounding project control are well captured in the fairly extensive research done by Rozenes, Vitmer and Spraggett (2006). They described project control as systems aiming to minimise the gap between project planning and project execution. Their research concluded with the important observation that the various project control systems are largely one-dimensional in their application, with even the most widely used project control system, namely earned value (EV), only addressing cost and scheduling. Much research is required to integrate all the facets of project management into a common control system.

Flyvbjerg *et al.* (2003) take the problematic state of project control further and argue that the lack of control may even start during project decision-making and feasibility studies. In effect, if the decision-making process and those stakeholders who actively steer the initial phases of the project are not controlled, the project might be set up for failure due to cost underestimation and / or benefit overestimation. No 'traditional' project control system is then capable of solving project performance problems. As with the emergence and formalisation of corporate governance in the corporate environment, the initiation of a new project calls for an element of 'independence' to facilitate good decision-making. This might assist in a balanced approach to

addressing relevant stakeholder identification and interest protection, rather than a defence of individual constituencies (Gillibrand, 2004).

1.5 Controlling projects in organisations

The control of projects goes well beyond the use of software tools and evaluation techniques. Although projects are supposed to support organisational goals at a strategic level, they are most often initiated at the business / tactical level, managed at the functional level and duly executed by the operational and functional level (Thompson and Strickland, 1996:38). See Figure 1.2 (Project control within organisational hierarchy).



Source: Thompson and Strickland (1996:38)

Figure 1.2: Project control within organisational hierarchy

The above figure attempts to illustrate the link between a project, the control thereof, and the organisational hierarchy. Projects are there to serve and mobilise the organisation in its quest for competitive advantage. As project goals are aligned with corporate strategies and the systems and methodologies are practised at the tactical / functional level, the management of each project should eventually be subjected to some form of integration and hierarchical control. Control, indicated by (a) in Figure 1.2, demonstrates the measurement required to align operational and functional activities with



strategic goals. The second control tier addresses the next, lower level of control between work methods (indicated by (b) in Figure 1.2). Together with the third level of control, illustrated by (c) in Figure 1.2, the work methods, processes, systems and methodologies aim to eventually address the defined strategic goals. Although it functions within the normal operation of an organisation, projects are by nature temporary and dictated with a defined beginning (PMBok, 2000:22) and therefore require a more focused approach to overall control.

On large infrastructure and industrial projects, problems with control are further aggravated when multiple owners and sponsors are involved. Especially when multiple countries participate, the interpretation of control might vary between countries.

But what should a typical project control system comprise? In answering this question, the hierarchy illustrated in Figure 1.2 could be used as a point of departure. For example, what project controls are required at each of the levels: strategic, business, functional and operational? These questions should be viewed in terms of:

- Influence of the external environment
- Type of industry
- Type of project
- Project management maturity of the organisation
- Management support
- Type of funding
- Stakeholder profile, and lastly, but most importantly,
- To what extent are corporate governance policies and practices applied on single projects, especially when project ownership is shared?

The above items tend to define more specific project issues: the environment, in which the project functions, conditions, circumstances, criteria for selection and control mechanisms. These issues raise two questions, namely: whether the concept of project management is generally applicable or industry specific;



and secondly, is defining project success parameters not part of the control process?

1.5.1 Existing models for project management and control

The lack of project control, and its subsequent impact on project success, is hardly a new discovery. Various attempts have been made in the past, and surely continue on a daily basis, to develop and implement methodologies and models to assist with the ever elusive control of projects. Methodologies available, and their origination, include:

- PRINCE 2 – originated from the Information Technology industry (Office of Government Commerce, UK: 2003)
- V-Model – developed in the Space and Defence industries (Forsberg and Mooz, 2000)
- P²M² – generic (Kliem, Ludin and Roberts: 1997)
- 5-Phase PM – generic (Weiss and Wysocki, 1992)
- and various others.

A specific model, which pertinently addresses project control in larger, industrial type projects, is the Integrated Planning and Quality Management System (IPQMS), formalised by Goodman and Ignacio (1982). Although this model has been applied to infrastructure project cases in the USA, there appear to be some shortcomings in its structure, especially with reference to stakeholder management.

Project management is not the only operational discipline / phenomenon that has been criticised for lack of control. General corporate management is continuously scrutinised for malpractice and control at all levels of the organisation. However, research and the formalisation of control in the corporate environment tends to be more advanced and provides a platform from which project management can gain knowledge.



Again, the above models contain shortcomings in their exclusiveness of the immediate environment in which the project functions and focus more on the day-to-day controlling activities of projects.

1.6 Project management – generic or industry specific?

The debate regarding the general applicability of project management is continuing. One of the key objectives with the establishment of the PMI in 1969 was the promotion of project management as a management science with general applicability (Burke, 1999:14-20). Although sound in theory, and supported by various tools and techniques (developed mainly in the military environment), reality provided the only true test for sustainability. Practitioners soon realised the importance of a common vocabulary (Forsberg and Mooz, 2000:28) and industry-specific requirements that should always prevail. This led to the establishment of Specific Interest Groups (SIGs). Currently more than 26 active SIGs are registered with the PMI, ranging from oil & gas to military, service projects and outsourcing, information technology, automotive and education. One might argue that all the SIGs find their basis in the foundation laid by the PMI, which is valid, but is it enough to justify a generic mechanism for project control and success?

Apart from the sympathy towards specific industry characteristics, other macro factors may also be worth considering such as politics, economic development status and private versus public sector involvement. With the number of variables increasing in the project environment, it becomes more understandable why confusion and different views exist in terms of a definition of project success parameters and causes of project failure (Crawford and Pollack, 2007).

1.7 Project control – learning from corporate developments

The science of general and business management has been progressively formulated since the late 1800s (Shani and Lau, 1996:8-15). In terms of control, much emphasis has recently been placed on corporate governance.



Well-known incidents of late include the Enron debacle, Worldcom, Parmalat and, in South Africa, PSCGG, Regent Bank and CS Holdings. In the words of the King Committee (King, 2002:20):

“... successful governance in the world in the 21st century requires companies to adopt an inclusive and not an exclusive approach. The company must be open to institutional activism and there must be greater emphasis on the sustainable or non-financial aspects of its performance. Boards must apply the test of fairness, accountability, responsibility and transparency to all acts or omissions and be accountable to the company, but also responsive and responsible towards the company’s identified stakeholders. The correct balance in an entrepreneurial market economy must be found, but this will be specific to each company.”

Although the above paragraph addresses the corporate environment, it explains the context within which projects, as mobilisers of strategic objectives, should function. Directing corporate progress in the above context necessitates the definition and contextualisation of project control from a strategic level, progressing into the concept of *project governance*. The above quotation also strongly suggests an external approach to control, as opposed to a predominantly internal approach associated with project management.

The word ‘govern’ is defined by the Cambridge Dictionary (1995) as “to have a controlling influence on, to have a direct effect on or to fix or decide”. The term supports the organisational control approach promulgated to address the performance of large, strategic projects and project management as an organisational function.

The concept of governance also provides the opportunity to review control in a project environment. As argued in previous sections (Sections 1.3 and 1.6), project control refers mostly to the day-to-day activities of project management without real consideration of those individuals, forces, motives and other influences, not necessarily internal to the organisation, that steer the project. These aspects characterise the environment within which project managers control projects. The concept is illustrated graphically in Figure 1.3.

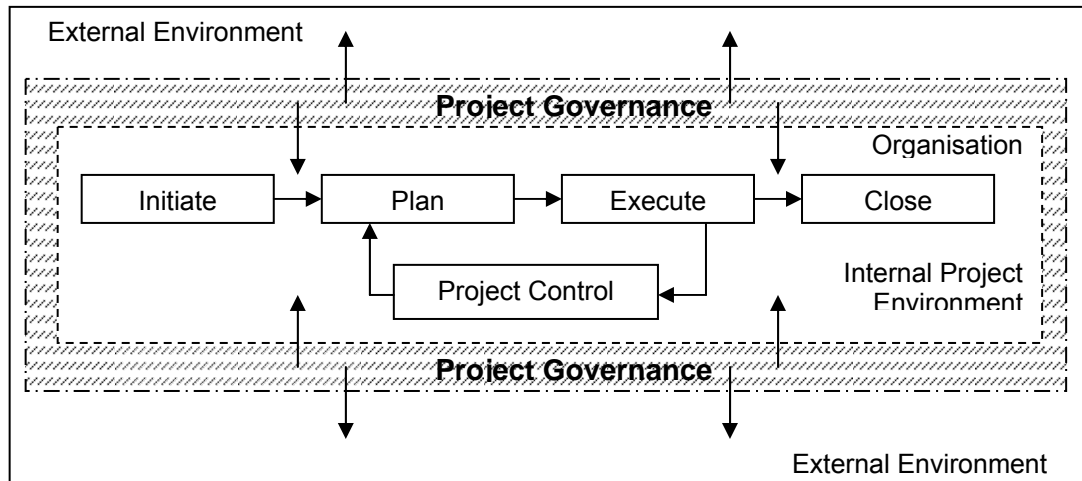


Figure 1.3: Project governance versus project control

Figure 1.3 defines a typical project within an organisation by means of the project process (PMBok, 2000:31). For the purpose of illustration, the project process is presented in a phased manner, namely Initiate, Plan, Execute and Close. In order to ensure the planned activities are done according to the initially agreed time, cost and quality criteria, Project Control is introduced to serve as a mechanism to validate and verify completed activities against planned intentions. Thus, project control lies within the internal project environment and is one of the key responsibilities of the project manager. The second level, within which the project functions, is that of the organisation itself. This could be any company or organisation that hosts the project. This type of organisation should comply with good corporate control and governance and strive to apply good management practices. The external environment includes the country, shareholders, society, statutory bodies and various other stakeholders that can, or will, be influenced by the project. In the view of good global citizenship, the interaction and cognisance of needs, motives and concerns from this environment should be actively handled in a project. In an attempt to define the term 'project governance' Pinto (2006) provided the following description: *The use of systems, structures of authority and processes to allocate resources and coordinate or control activity in a project.* However, the definition is still an individual attempt and fails to provide clear allocation of responsibilities and is also not based on a clear process of defining 'project governance'. In the continuous attempt to improve the

definition of 'project governance' the fundamental difference between project control and external governance is summarised in a comparative table below (Table 1.4 Internal Project Control versus Project Governance).

The external and organisational environment can, to a large extent, determine the eventual outcome of a project and are therefore key players in determining whether the environment is conducive for practicing good project management. Thus, governance structures and practices provide the atmosphere and environment within which projects are developed and executed.

Table 1.4: Internal project control versus project governance

	Internal Project Control	Project Governance
Objective	To ensure compliance with the Project Plan	To ensure compliance with Good and Responsible Corporate Citizenship
What is measured?	Actual versus planned activities	Acceptance by and accountability to stakeholders
Mechanisms used to measure	Project management tools i.e. Critical path, cash flow, etc.	Stakeholders' response and acceptance as well as level of transparency
Who is responsible?	Project manager	Project sponsor, steering committee and top management
When are control and governance established	Throughout the project life-cycle	Before project feasibility

In large capital projects there could be numerous shareholders and stakeholders, with various companies and organisations participating in the project. Coming from different organisational backgrounds, countries, cultures and various corporate governance models, a unique 'organisation' is established that will cease to exist once the project is completed. Given this temporary nature, the establishment of a formal governance environment within which project control should function seems to be lacking in most cases, thereby aggravating the problem of lack of proactive control needed on projects.



To further elaborate and strengthen the possibility of applying corporate governance mechanisms on projects, which by nature are temporary, it might be worthwhile to first investigate the validity of viewing a project as being a *temporary organisation*. The word *temporary* is linked to the fixed *beginning* and *end* or *once-off occurrence* associated with a project life-cycle, while *organisation* exemplifies the establishment of a group of human resources with the objective to deliver on a defined project product or service.

1.8 Projects as temporary organisations

The notion of governance is well developed well for organisations (corporations). In this section, projects are viewed as temporary organisations. This implies that governance principles can also be applied to projects.

Even though some literature refers to projects and temporary organisations as synonyms, it is worthwhile to review the rationale behind the comparison before investigating the application of corporate governance in the project environment.

In their attempt to construct a theory of the temporary organisation, Lundin and Söderholm (1995), borrowed from the behavioural theory (Cyert and March, 1963) within which the notion of *action* plays a leading role, rather than decision-making. Initially, this approach might seem to be contradicting the view of Flyvbjerg *et al.* (2003) that many large project failures can be contributed to the decision-making process. However, Lundin *et al.* (2003) substantiate their approach by referring to theoretical and logical reasoning, which could support the view of Flyvbjerg *et al.* (2003) from the opposite perspective.

The theoretical reasoning relates to the general criticism of the rational assumptions underlying the decision-making process. Even though much thinking still considers actions as instrumental consequences of decisions, the input-output relation has been questioned (March, 1981; Kreiner, 1992).



Challenging the traditional approach of action follows decision results in views such as:

- Decisions can be made after actions have been taken and they may be made to legitimise actions already taken
- Solutions may be implemented even without a problem being properly defined or analysed (Jönsson and Lundin, 1976)
- There might not always be a logical connection between decisions and actions
- Influential conditions, including organisational culture, institutional norms, politics, hidden interests and commitment may also influence action in ways that cannot be analyzed from a decision-making perspective (Meyer and Scott, 1992).

The first, and especially the last, points above supports the previous quoted view by Flyvbjerg *et al.* (2003) that some projects are initiated intentionally without proper justification.

Miles (1964) and Goodman (1981:2-4) concluded through logical reasoning that action is a primary concept in the theoretical base of temporary organisations and that temporary organisations are, almost without exception, motivated by a need to perform specific actions to achieve specific goals. Thus, if temporary organisations are viewed as systems for implementation, action will be a dominant feature. This approach is aligned with the view from traditional project management literature that projects and project management emphasizes relevant action as being fundamental to the success of a project (Lundin & Söderholm, 1995).

In the further development of the theory of a temporary organisation, Ekstedt, Lundin, Söderholm and Wirdenius (1999:54) refer directly to the PMI's approach to action orientation in the definition of the concept of project management. This approach resulted in the identification of differentiating factors between a temporary organisation and a permanent organisation. These factors include:

- Time



- Task
- Team
- Transition, and
- A phased approach, whereby the life-cycle of a temporary organisation is defined in terms of a concept phase, development phase, implementation phase and, lastly, a termination phase (Lundin and Söderholm, 1995).

The above listed factors are well aligned with the characteristics of the traditional definitions of a project and provide a solid departure platform to investigate the application of corporate or permanent organisations' controlling concepts (e.g. corporate governance) to projects.

This dissertation will therefore investigate, develop and conclude on the applicability of corporate governance in the project management environment with an emphasis on large infrastructure and industrial projects. The dissertation will differentiate between project control and project governance, the former being internally focused and associated with the day-to-day management of activities on an operational and support level, and the latter incorporating external factors around strategic and tactical levels as well as outside stakeholders. Thus, governance focuses on those aspects and individuals 'steering' the overall project.

Project governance is viewed as the framework within which project control can take place.

Given the above attempt to establish the commonalities and similarities between poor project performance, project control, corporate governance and projects being viewed as temporary organisations, it can be concluded that project management, as a management discipline, has not yet reached the level of management maturity of the traditional organisational management sciences and practices. In order to improve on its performance, especially with large capital projects, the project management fraternity needs to learn from the more established and researched corporate management concepts in



order to customise good practices to the specific characteristics of the project. Eventually this research aims to contribute to the science of project management by attempting to address one corporate management concept in the form of corporate governance applied to the project environment, with the aim of eventually improving project performance.

1.9 Summary

The preceding paragraphs provide a short overview of various topics centred around the management of projects. Starting with a review of defining project success, the actual success (or lack thereof) achieved in (especially) large capital projects was discussed. The research done on the potential reason why projects fail highlighted the 'lack of project control' as a common theme. With the abundance of project control tools and systems available the question remains: "Why do projects still fail?" - especially large capital projects? Convincing arguments were reviewed postulating that the search for project cost overruns (cost underestimation) and benefit underestimation may exist upon project initiation in the macro political and business environment.

For projects of a large capital nature conducted across borders by multi-national companies no form of regulatory guidelines exist except for adherence to the local and foreign countries' laws and codes of conduct. This 'unregulated' environment, within which billions of dollars change hands quite often, leaves the project manager in a twilight zone, torn between managing and controlling the day-to-day project activities in an environment directly exposed to external influences.

Toward the end of the 20th century, the corporate world was trapped in a similar situation wherein shareholders were exposed to the 'unregulated' behaviour of executives, with devastating consequences. To counter the potential misconduct, the formalisation of corporate governance was developed, forcing executives to act more transparently and responsibly. This dissertation argues that the same, or a similar, environment should be established for LCP, especially where tax payers' and shareholders' money is



used, and that the project manager is assisted with an environment in which he / she has a reasonable chance to manage the project to success.

Learning from the corporate world, the primary aim of this research is to define a framework for project governance that will assist in the establishment of an environment within which a project has a better chance of being managed to success.

The following sections provide more detail on the definition and goals of the research.

1.10 Research problem

The research problem is:

No generally accepted project governance framework exists that provides a formal framework within which large capital projects are initiated, planned, executed, controlled and closed to ensure the optimum benefit for all stakeholders.

1.11 Research objectives

The study aims to develop a project governance framework based on corporate governance principles. The model will form the basis for steering large capital projects.

The specific objectives of this research are to:

- Develop a project governance framework for LCPs.
- Improve the potential of project success through an inclusive process of developing, negotiating and confirming the governance framework of an LCP.
- Extend the use of corporate governance policies beyond internal company control to project control.



All the objectives extrude to the improvement of project performance within a specific environment.

1.12 Research goal

The goal of the research is to:

Develop a theory-based and empirically verified project governance framework that will assist in steering large capital projects towards the overall improvement of project performance.

This goal aims to provide a better understanding of the characteristics and dynamics of a project, thereby improving controllability throughout the project life-cycle.

1.13 The research questions

The first research question to be addressed is:

What should a project governance framework for LCPs comprise?

And secondly:

To what extent have project governance principles been applied on LCPs, formally or informally, and to what extent can the outcomes be attributed to the presence or absence of governance principles.

The first question will be investigated through the Delphi technique, while the second research question will be addressed by means of case studies.

The problem will focus on large infrastructure and industrial projects. This sector includes:

- Mining
- Petrochemical
- Mineral processing
- Infrastructure development
- Public Services



- Transportation
- Energy, and
- Spatial Development Initiatives (SDIs)

1.14 Limitations and assumptions

This study will primarily focus on capital investments exceeding US\$1 billion. However, to test the eventual framework, projects of lesser value but higher complexity are also considered. This is due to insufficient project information available on large projects in generally literature.

The study will not develop a new methodology for project management, even though control elements of current methodologies may be used.

The following is assumed:

The principles of *corporate* governance are sound, defined well enough and accepted internationally.

Given the above boundaries, the approach and strategy of the research can be defined as provided below.

1.15 Outline of the thesis

With Chapter 1 providing an overview of the research, Chapters 2 and 3 expand on the dynamics of LCP and the evolution of corporate governance respectively. The research design and methodology is discussed in Chapter 4 with the analysis of the results and proposal for a project governance framework outlined in Chapter 5. The rationale behind case study research is given in Chapter 6. The actual case study research comprises two sections. The first section is discussed in Chapter 7 and comprises the investigation into the application of project governance principles on two large projects. In Chapter 8, the outcomes of several case studies found in literature (secondary case studies) are reviewed and commented on against applicable project governance principles. The conclusions and recommendations are contained



in Chapter 9. The overall structure is depicted graphically in Figure 1.4 (Thesis structure).



Chapter 2: Literature study Phase I – The Management of Large Capital Projects

The question of good governance is a global challenge and much effort has gone into the development and implementation of various frameworks and models by different countries. To date the management and governance of large capital projects (LCPs) has very much resided under the concepts of corporate governance, good management practices in its broadest terms and adherence to legal and statutory regulations. However, the question remains what to do when multiple countries and multiple companies participate in the same project, with each respective role player adhering to its in-country governance requirements? Also, who will act as ‘watchdog’ for the interests of other direct and non-direct stakeholders, and what framework should be used to develop the overall terms, conditions and mutual cooperative agreements that will guide the overall governance of the LCP? In order to develop such a commonly understood and generally agreed project governance framework, the fundamental components, characteristics and functioning of LCPs and their progress over the years must first be investigated, clarified and thoroughly understood.

The following paragraphs provide some insight into the characteristics of LCPs, their complexity and challenges as well as evolutionary developments in their management. Most of the material is derived from the work done by Esty (2004), Miller & Lessard (2000), Hughes (1988), Flyvbjerg *et al.* (2003), Ekstedt, Lundin, Söderholm and Wirdenius (1999) and Morris & Hough (1987).

2.1 Defining an LCP and the need to study its characteristics

Within the broader context of capital projects, this dissertation views an LCP as any large commercial, infrastructural private or public project with a capital value of US\$ 1 billion or more. Despite the fact that very little research has



been done on LCPs (Esty, 2004: 56), they are attractive because their nature, in terms of magnitude and societal impact, has a profound effect on the conscious and deliberate decision-making of managers.

Some of the most demanding and challenging managerial decisions centre around attempts to mitigate costly capital market imperfections. These imperfections, which include agency conflicts, asymmetric information and distress, impose a severe burden on the financing costs of organisations. According to Esty (2004:57) small costs relative to the total project budget become large absolute costs, thereby increasing the probability of detecting their existence and observing the relevant positive or, mostly, negative reaction to the imperfections. For example, an agency conflict that causes a negative cost of 5% on an asset value of US\$ 20 million is 'only' US\$ 1 million. But, for a US\$ 2 billion investment, which is not uncommon in modern societal developments, the negative cost amounts to US\$ 100 million that translates into immediate over expenditure.

Apart from this potential financial impact on an organisation, alternative drivers also influence managerial decision-making. The decisions can have no immediate effect on the value of the committed amount, or they can eventually manifest into incentive conflicts between managers and funders. For LCPs, where powerful political agendas and numerous influential parties inevitably enter the decision-making process, the structural decisions may not eventually result in the maximisation of value. Esty (2004:58) amplifies the awareness that LCPs not only affect key decision makers and the companies in which they work, but also the communities and nations where they are located. The Mozal project in Mozambique is an excellent example of how an LCP can change a country for the better (Easterly, 2001). The project comprised the building of an aluminium smelter to the value of US\$ 1.4 billion, a sum that was approximately equal to the country's gross domestic product (GDP) at the time. The success of the project and the investment led to a follow-up investment of another US\$ 1 billion for Mozal II, as well as several other infrastructure and industrial investments. In the developing world, as in the case of Mozambique, where the per capita GDP of the country is less than



US\$ 100 per year, large-scale investments, developed and executed responsibly, can dramatically change the business climate and have a positive impact on the economic development of the country. To emphasise this observation, the Mozal I project was selected as a case study for this dissertation and is discussed in Chapter 7 of this document.

Unfortunately, as explained in Chapter 1, the limited quantitative evidence that exists on the performance of LCPs is not favourable. Industrial projects such as the Euro Tunnel, Euro Disney, Enron's Dabhol power plant, Iridium, ICO Communications, Global Crossing (the Atlantic Crossing and Pacific Crossing Cables), Globalstart, Murrin Murrin (an Australian nickel mine), as well as real estate projects such as the Millennium Dome and Canary Wharf have all encountered financial or social distress.

But the overall picture on project performance of LCPs does not only portray negativity. LCPs can be viewed from various points of interest. One of the most important aspects, especially in a capitalistic society, is the actual return on investment of a large commercial project. According to Esty (2004) an organisation called S&P Risk Solutions, a division of the Standard & Poor Corporation, in collaboration with four leading project finance banks, completed a comprehensive study on the performance of project loans provided up to 2004. Their analysis shows that project loans have lower default rates and higher recovery rates than corporate loans. While more research and data are needed, there seems to be sufficient evidence to suggest that large projects may be a unique sub-group of projects or major investment initiatives with different performance characteristics.

Finally, there are important educational reasons for studying large projects. To optimise investing, financing and operating decisions, senior executives must possess functional expertise across a broad range of disciplines. As stipulated by Esty (2004:59), managers of LCPs should understand a broad range of issues including, financing, competitive strategy, marketing and sales, negotiation, human resource management as well as business governance and ethics. This mention of the competencies required by managers of LCPs



is significant and should be addressed when the composition of a project steering committee is decided on (similar to the composition of a board of directors in the corporate environment). The study and analysis of LCPs therefore has the potential not only to generate new academic insight, but also to improve current practice.

2.2 The importance of LCPs

The importance of LCPs cannot be overemphasized. Projects such as airports, urban-transport systems, oil fields and power systems engulf some of the most prominent sectors in the business world. These projects can be massive in size and complexity and can have long term direct and indirect effects, while the investment profile could be cyclical over extended periods. Their effects are felt over many years, especially as auxiliary and complementary additions are made or where the impact on a country could be significant. As an indication of demand for capital investment in infrastructure, the Conway Data Report (Miller & Lessard, 2000:1-2) revealed that by 1999 more than 1,500 LCPs, each worth more than US\$ 1 billion were in different stages of development and construction. These projects covered industries such as oil, power, transportation and manufacturing. Projects like these transform big, seemingly elaborate ideas, into reality. Such projects comprise initiatives to produce 8,000 megawatts of hydroelectricity from a dam in the Brazilian Amazon, an oil platform in the stormy North Sea, as well as networks of roads and tunnels connecting, not only countries, but also continents. It is quite evident that the number, complexity and overall scope of this type of mega project have been growing rapidly over the last few decades.

LCPs are important, not only because they transform the physical landscape and change the quality of human life, but also because they are most often the stimulant for new forms of collaboration, venturing and contractual agreements being developed. It is these types of relationships that have evolved over the years in order to find a win-win situation and / or allocate and manage the inherent technical and commercial risks. Eventually, one party needs to be held accountable for overall project performance and obviously



the participating parties would attempt to protect themselves in the process as well as maximise their benefit.

The ability of a country or nation to develop and implement LCPs, as well as the concomitant investment in research facilities, education and communications, contributes greatly to the progress of a country's economic development and the quality of life of its citizens. Figures gathered by Mintz and Preston (1994) show that in developed countries, investments in infrastructure represent, on average, one-tenth of total capital investments. Net public investment in infrastructure as a proportion of GDP ranges from two percent in the United States to four percent in France and six percent in Japan. Needless to say, for developing countries, this type of investment is even more important. In the Middle East and North Africa, US\$ 350 billion will be invested in infrastructure development by 2010. The largest developments will most likely happen in China as economic growth accelerates to 10% per annum. The need for power in Asia is such that capacity has to grow by at least 10 percent per year simply to prevent blackouts and the construction of the Three Gorges Dam and its enormous hydroelectricity capacity is leading the way.

The increase in available capital after World War II grew exponentially and by the 1990s figures of US\$ 500 billion in annual investment worldwide became the norm. In an ever growing capitalist society, this type of capital flow will draw attention for various reasons, but mainly because of the search for new business that could benefit the entrepreneur. Although economists still debate the links between infrastructure investment and productivity, private investments in infrastructure are growing because many projects are expected to bring good returns. Given the complexity of LCPs and the sometimes limited capacity of the state to manage these types of projects, various countries have embarked on economic and institutional reforms to allow private investors to become project sponsors.

The increasing demand for infrastructure and related investment directly posing the question of effective and efficient ways of delivering LCPs. In



general, public investments and international agencies can now only finance a small fraction of needed investments, creating major opportunities for private investors. According to figures presented by N. Roger at the joint OECD and World Bank workshop entitled “Meeting Infrastructure Needs in the 21st Century”, held in Paris in 1998, private share in infrastructure investments ranges from 9 percent and 13 percent in Germany and France to 47 percent and 71 percent in the United States and the United Kingdom (Roger, 1998 in Miller & Lessard, 2000:3).

The growing demand for large LCPs is also partly the result of population growth and partly economic take-off in the more successful developing countries. According to the Major Project Association (MPA, 1994) nearly half the world’s population will live in mega-cities by the end of the 20th century while most of the mega-cities will be in the Third World. Although mega-cities do not necessarily mean mega-projects, as people flock to the cities and end up in slums and squatter camps, development will not keep pace. Housing may need funding through aid while the provision of utilities may result in LCPs, which will attract some foreign investment. Apart from the construction industry, three other sectors will require massive investment in LCPs (MPA, 1994). The three sectors are surface transport, aerospace and energy.

Due to their magnitude and substantial footprint, LCPs often meet opposition from international pressure groups such as Greenpeace, International Rivers and the World Wildlife Fund. More often than not LCPs will have an impact on the environment and / or socio-economic activities of the region. Since the 1990s the formal evaluation of a project’s overall impact has had to be thoroughly studied, communicated and assessed before commencement of any implementation activities. Selecting only technologically simple and environmentally friendly projects seems to be the obvious choice. However, retreating from complicated projects to look for simple winners has obvious limitations in the sense that the supply of simple projects is finite, and many projects such as bridges, oil platforms, dams, tunnels and subways do not fall into the category of small and uncomplicated investments.



As risks and uncertainties increase, project ventures and contracting arrangements have progressed more toward elaborate contract strategies and agreements. Public-private partnerships (PPPs), coalitions, joint ventures and formal partnerships have emerged in various formats to solve societal and business complexities more efficiently. All of these new models of participation and partnership face the challenge of proper governance across a spectrum of cultures, business practices, ethical beliefs and behaviours in a move towards the establishment of a commonly understood and agreed system and process of better management of risks, whereby each participant assumes the part of the project risk that it is particularly well qualified to handle.

2.3 The complexity of LCPs

With the ever increasing involvement of private firms at the strategic level of public sponsored projects as well as LCPs becoming more often cross-country and across organisational boundaries in nature, the relevance of traditional planning and project management becomes increasingly questionable (Miller & Lessard, 2000:3). Given the relative poor performance of LCPs, it is clear that the gap between the realities of projects and the guidelines for managing them are widening. Since the inclusion of 'external' factors such as environmental impact and socio-economic considerations, the conventional approach to rational planning, beginning with a clearly defined technical scope, seems to be becoming largely inadequate for managing LCPs. In the following paragraphs some of the studies related to the uncertainty and complexity around the management environment within which project management needs to operate are reviewed and discussed.

2.3.1 Complexity in contracting relationships

It is becoming clear that managers are asking whether established beliefs and standard prescriptions still hold true. There appears to be a considerable gap between accepted views of how to manage large projects and the practices



being observed and studied. It could be that the approach to LCPs is being modified to deal with an increasing array of stakeholders, yet uneasiness remains pervasive. This phenomenon is illustrated in Millar *et al.* (2000:4), quoting an executive from an engineering contracting firm during their research into LCPs:

“Many decades of established contracting practices are coming to an end. Instead of responding to bids from creditworthy sponsors, we have initiated projects, become investors and learnt to become concessionaires.

Things used to be clear. As engineering consultants, we met ABB as equipment suppliers; we specified on behalf of our clients and ABB supplied competitively. Now we meet them sometimes as partners, sometimes as investors and sometimes as contractors. We each have to wear many hats and play different roles in many projects to get business.

Politics used to be at the fringe of project management; now, it seems as if the fringe has become the core. Politics is at the centre of discussions and engineering has moved to the periphery. We seem, as an engineering firm, to have lost control over the factors that influence our future.

As equipment suppliers, it is challenging for us to work with innovative sponsors, as opposed to responding to detailed bidding documents. Innovative buyers value our competence and stretch our creativity. What a change from the times when we had to deal with traditional clients who preferred detailed specifications and required us to design old-fashioned solutions.

Public agencies used to get involved as independent regulators protecting the public, the environment, the fisheries and so on. Increasingly, we have to participate in the design and prior approval of sponsors’ plans and agree not to interfere as long as sponsors respect their commitments. We have to navigate between the state, the public and the developer. We have to become partners while remaining regulators accountable to elected officials.”



In this climate, the limitations of established bodies of knowledge are surfacing. The assumption that LCPs can be scoped, planned and managed with existing planning techniques does not seem valid anymore. Prior empirical studies of large-scale projects have generally focused on technical and economic factors, but with a changing managerial and external environment our approach to LCPs, especially during the initial phases, needs to be re-assessed.

2.3.2 Complexity in management approaches

Since the involvement of private capital and the addition of statutory requirements for LCPs, the definition of a management approach for a project has gained various dimensions. In 1994, Gregory Ingram conducted a study under the auspices of the World Bank into project management challenges and project performance of infrastructure projects (Ingram, 1994). Ingram concluded that the cause of poor performance does not necessarily lie with planning errors but is more inclined towards incentives facing sponsors and users. He also noted that new methods and institutional frameworks should be developed in collaboration with international agencies. These observations support the view of Flyvbjerg *et al.* (2003).

In one of the most influential studies conducted on the topic of LCPs, Peter Morris and George Hough (Morris & Hough, 1987) concluded that the poor performance of LCPs could not be attributed to incompetence *per se*. In fact, of more significance are areas not traditionally associated with project management activities. These include factors such as inflation, escalation, government induced changes, increased safety and health requirements and land acquisition charges, to name but a few. In a second study Morris concluded that traditional procedural approaches could not deal with externalities, institutions and strategic issues (Morris, 1994).

Johan Bryson and Philip Bromiley (1990) attempted to understand the value of strategic planning by conducting a quantitative study of publicly available



project case studies. Their findings supported Frame's (1999) view that projects fail due to inadequate estimating rather than poor implementation. They also concluded that the numerical adequacy of the planning staff strongly influences project outcome.

From the various studies it becomes clear that projects fail not because they are technically complicated, but because they face dynamic managerial, political and institutional complexity. Rising to the challenge of large projects calls for shaping them during a lengthy front-end period and creating an environment within which accurate project decision-making can be accelerated. The seeds of success or failure are planted early and, as believed in this study, create an environment conducive to the management of large projects. Relationships among stakeholders can generate innovative solutions but may also lead to trajectories that become degenerative. In general, competent sponsors refuse to engage in trajectories and management approaches that are likely to lead to failure.

Complexity and dynamic instabilities mean that the future performance of LCPs, in the current, traditional managerial environment, will remain difficult to predict. Inherent risks are not always identified upfront and most often evolve as projects are being shaped and built. According to Millar *et al.* (2000), in a study of 60 LCPs by the IMEC research group, turbulence can originate from two sources: exogenous events, occurring outside of the control of management, and endogenous events, arising within project organizations. In their study, project turbulence was measured by the frequency of unforeseen exogenous and endogenous events. Few projects were completed without meeting turbulence: in their study projects met, on average, close to five unexpected events during initiation, construction and start-up whilst some encountered up to 12 turbulent events.

According to Millar *et al.*'s definition, exogenous turbulence stems from political, macroeconomic and social events. The behaviour of sovereign authorities and nature are frequent sources of unforeseen events. It may be argued that these turbulent events should be foreseen. In reality, however,



managers do not always have full control over the behaviour of autonomous actors who sometimes act opportunistically.

Endogenous turbulence arises from a breakdown of a partnership or alliance, or from contractual disagreement. Although it may sound pessimistic, it is commonly believed in practice that parties know that opportunistic actions pay off: agreements, community interests and reputation are then pushed aside.

In summary, both the exogenous and indigenous events described in the previous paragraphs form part of the overall governance sphere within which projects should be managed according to traditional measures of within time, budget and quality parameters. LCPs represent both a major economic activity and a poorly understood area of management. Although these projects are high stake undertakings, they are important and can be managed. Their technical difficulties do not condemn them to failure: far more troublesome are the difficulties arising from governance, complexity, irreversibility and dynamic instability.

2.4 Evolutionary developments in governance in LCPs

As with the evolution and eventual formalisation of corporate governance (see Chapter 3), the management of LCPs and the quest for governability is evolving, but not yet formalised.

Challenges facing the performance of LCPs have been addressed in different ways over the past few decades. The solutions have been multidimensional configurations of mutually supporting elements such as laws, regulations, practices, and roles, which can be termed institutional arrangements.

In developing different types of institutional arrangements that manage and operate LCPs, Miller and Floricel (2000) borrowed from grounded theorising of 60 IMEC field studies to deduct three distinct institutional arrangements found in managing LCPs. Complimenting the work of Hughes (1988), these

institutional arrangements (entrepreneurial, rational system and governance) are given over a time period in Figure 2.1.

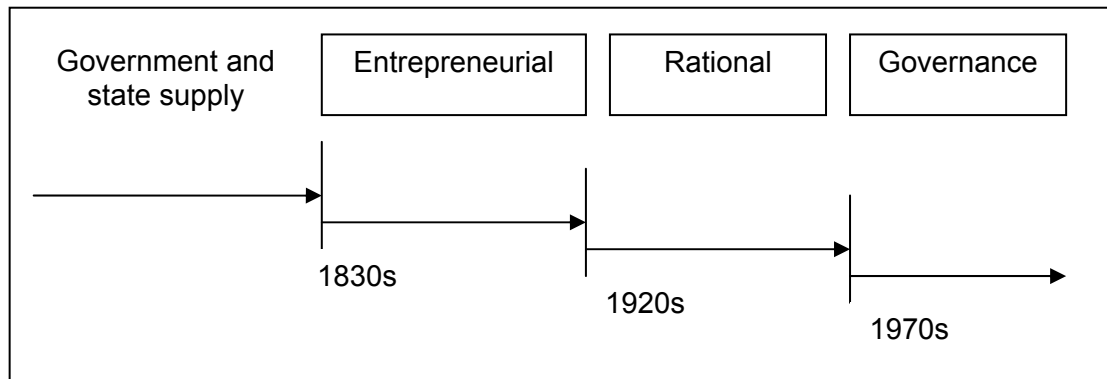


Figure 2.1: The evolution of institutional arrangements for LCPs

Each arrangement arose as innovations were made to face difficulties and problems caused by the failure of existing methods of sponsoring and building projects. A detailed explanation of the different arrangements is provided in Table 2.1.

2.4.1 Entrepreneurial arrangements

Although initially developed by the state, private railroad development was done in the UK since the early 1800's. Building on the initial success the idea crossed the Atlantic Ocean with prominent railroads such as the Boston and Worcester, Boston and Lowell and Boston and Providence being sponsored and funded by engineering firms and banks. The notion spread to other parts of Europe and, in the United Kingdom, railroads were established by private institutions in order to reduce transportation costs. The major source of financing for projects during this era was public subscriptions of corporate stock (Salisbury, 1967).

Table 2.1: Characteristics of the three main types of institutional arrangements

	Entrepreneurial	Rational systems	Governance
Institutions	Minimal regulation	Regulated monopoly (price or rate)	BOT / concession
Economic context and trends	Exclusive rights or concession framework Space for expansion Cost-reducing and performance-enhancing innovations	Environmental regulation Predictable cost reduction for output Room for system expansion	Rules to foster competition and private ownership, environmental regulation Urgent need for infrastructure and room for new projects
Technology	Emergent Local	Established dominant design Large-scale projects	Stasis of core technology Information and environmental technologies
Main actors	Entrepreneurs Individual investors Investment banks	Network operators Regulators	Developers, entrepreneurs, EPC firms, banks, network operators, regulators
Risk allocation	Risks assumed by entrepreneurs	Risks internalized by large system	Risks allocated to participants
Project practices	Internal design Public stock issues Multiple construction contracts	Internal financing, planning and design Multiple fixed-price contracts, bidding Detailed specifications	Partnerships, alliances Project financing Turnkey contracts
Ways to attain effectiveness and efficiency	Effectiveness: owner-performed design, control over construction Efficiency: competitive bidding	Effectiveness: rational centralized Efficiency: scale and network economies and competitive bidding	Effectiveness: diversity of competencies and risk allocation Efficiency: owner-contractor partnership
Organisation forms	Small, dynamic	Hierarchical	Networks
Dominant ideology	Pragmatic	Modernism (rational planning, bureaucracy)	Deregulation, privatization, ecology

Source: Miller & Floricel, 2000

The competitiveness of the entrepreneurial area became apparent with generation and especially distribution of power in the 1880s. Due to limited



initial regulation several rival companies laid distribution lines on the same street. The duplication and development of alternating current technology prompted authorities to pay closer attention to regulation and prevention of wastage (Hughes, 1988).

Nevertheless, entrepreneurs continue to find innovative ways to conduct their business and develop both extensive partnerships and detailed contracts. A good example of such arrangements is Shawinigan Water and Power, which comprised a group of industrial firms that established Shawinigan Engineering to use the power it produced to serve all of them (Millar & Floricel, 2000). Similarly Montreal Trust assembled Trans-Alberta Power, Montreal Engineering and Co., and several suppliers to build power plants (Innis, 1970).

Despite their initial success and ability to respond quickly to infrastructure needs, entrepreneurial arrangements had their limitations. The eventual demise of this arrangement was caused by various internal and external factors such as:

- repeated market failures
- uncontrolled competitive forces
- duplication of investments in the same area, marginalising potential returns
- monopolistic abuses
- corruption in the handling of subsidies, and
- probably most importantly since entrepreneurs are profit and optimisation driven, the entrepreneurial projects often did not cover all infrastructural needs and only focused on the profitable items. This approach left some of the rural, non-profitable developments behind. Maintenance of the facilities was also neglected.

The shortcomings and emergent flaws of the entrepreneurial arrangements gave rise to a more controlled approach by governments and regulatory framework started emerging in the form of rational systems.



2.4.2 Rational systems

With the entrepreneurial era serving its purpose, and subsequently establishing some of the most prominent infrastructure, rational systems emerged with the development of regulated monopolies. Due to its interconnectivity, mutual dependencies and careful control required to avoid duplication and waiting time, railroad projects spurred the formation of rational systems. Combined with technological development that prompted significant scale and network economies, rational management regulated and facilitated the construction of large railroad, power, transport and telecommunications systems (Millar & Floricel, 2000).

Although it might seem as if control over LCPs migrated back to the state, the parallel development and isolation in operation of systems with a common backbone had to be rationalised at some stage to improve the economies of scale. A prominent area where rationalisation became quite evident was the provision and distribution of electricity. In 1935 the Public Utility Holding Company Act (PUHCA) introduced regulation of holding companies by the Securities and Exchange Commission. This development provided regulation of the sector by the Federal Power Commission.

Rationalisation of utilities spread fast across Europe and resulted in more or less regulated regional monopolies controlled by government owned firms. By 1926 the British 'national unity' government passed legislation that imposed coordination of all private electricity suppliers by the Central Electricity Board's national grid. This approach of consolidation progressed and by 1947 the Labour Government decided to nationalise the entire power sector. The same approach was taken by the French government and by 1946 all private firms that had been instrumental in the consolidation of distribution companies were nationalised to form the state controlled Electricité de France (Millar & Florecil, 2000).

The rational systems approach became predominantly state controlled, whereby government initiated projects and assumed the risk. Some public



departments did not only take responsibility for designing the infrastructure facilities but also handed over to an internal construction department who built and implemented the systems. Funding of these projects came from issuing stocks or bonds.

Due to the public position of the infrastructure and utility providers, most governments tried to keep their operations transparent in the form of open bidding procedures and contractor appointments. However, the access to project performance information by the media resulted in the publishing of the numerous cost overruns, especially on nuclear plants (Millar & Florecil, 2000). Further questions were raised by public protection groups regarding the consideration of conservation measures, price increases and environmental considerations. The belief that public enterprises were over protected and not up to date with modern technologies and techniques started to prevail. By the 1970s the effectiveness of the rational system arrangement was seriously questioned.

Entrepreneurial and rational arrangements provided institutional designs of the opposite extremes. Where the entrepreneurial approach strongly supported private enterprise, input and even control of public services, rational systems achieved the opposite. It would probably be unfair to describe the two systems as failures since both indeed had a role to play in their organisational format during their time. The entrepreneurial era brought about fast development in the field of infrastructure and utility development, while the rational arrangement consolidated the current assets and worked towards optimisation and economies of scale. However, societal development remains dynamic and, with the addition of immense technological developments during the 20th century, the inherent inefficiencies of institutional arrangements became evident. As with many other systems and institutional arrangements that become obsolete over time, new arrangements had to be developed.

Although above the paragraphs address mostly infrastructure and utility LCPs, large projects in the private industry also became more exposed to external factors such as socio-economic and environmental considerations. Thus,



even though many private companies carried the full risk of their investments, they had to comply with various and increasing numbers of statutory requirements for project approval.

2.4 3 Governance arrangements

Complete governmental control of LCPs, especially infrastructure and utility projects, came under serious threat when governments could not fund or borrow capital for the LCPs. By the late 1970s governments, especially in the UK, had to start looking at alternatives to secure proper funding and harvest the optimum methods for project management. These constraints, together with a general public desire to involve smaller companies in larger projects, prompted the quest for different institutional arrangements. The reversal of the rational trend was further accelerated during the Thatcher era of privatisation (Micklethwait & Wooldridge, 2003). Previously contractual arrangements and risk allocation were separated by governmental and non-governmental expenditure. This was done via contractual strategies such as lump-sum or lump-sum turnkey contracts. Monitoring of work was often replaced with contractual incentives, such as bonuses for early delivery and high performance. In some cases turnkey contractors became equity investors in the project, which gave them additional incentive to ensure sustainability of the project long after implementation. Under these governance arrangements, the concerns of project sponsors, financiers and developers shifted from mere delivery to contractual terms and conditions. With the initiation of the privatisation concept, the development and implementation of LCPs followed the merging and collaborative atmosphere associated with privatisation, creating new questions regarding the validity of project viability (Millar & Florecil, 2000).

A new era of partnerships, joint ventures, collaboration and mergers dawned. New institutions and contractual arrangements emerged such as the Private Finance Initiative (PFI) in the United Kingdom, the Build-Own-Operate-Transfer (BOOT) laws in the Philippines, Pakistan and Turkey, and the concession framework in France (Millar & Floricel, 2000). The BOOT funding



scheme involves a single organisation, or consortium designing, building, funding, owning and operating the scheme for a defined period and then transferring ownership to an agreed party (MAF, 2007). With this type of arrangement, multilateral agencies such as the International Monetary Fund (IMF), the World Bank, and the International Finance Corporation (IFC) started to play a major role in project development and implementation.

In the private sector, investment banks, venture capitalists, owners and then contractors and consultants started the process of vertically integrating into the development and implementation of projects. Companies in the United States soon realised that new opportunities existed upstream with their immediate clients and firms such as Bechtel Power Corporation, General Electric and Pacific Gas and Electric formed project development entities. In South Africa, Fluor established a group to study natural gas field capacities in Mozambique and even smaller mining houses such as TWP formed project financing divisions to help raise capital for prospective private projects. It was such practices that prompted widespread concern about the involvement of engineering houses in the feasibility stages of the project, especially when the engineering house becomes one of the potential implementation bodies. The incentive to 'make' the project viable is huge, especially if the engineering house does not participate in the operational performance of the project or the handover. In the South African mining industry this phenomenon has become a source of great concern, especially under conditions of in-house resource scarcity (Raju, 2007). Adding to the requirements for local involvement, criteria for approval (i.e. mining rights, socio-economic contribution, etc.) and the influence of key roles players, the interaction of stakeholders becomes complex.

A very good example of how of multiple influences and interrelationships interact with one another within an LCP is graphically explained below in Figure 2.2 (Relationships with potential to build).

Eventually LCPs are moulded into alliances that link sponsors / owners / developers / clients with EPC contractors, bankers and institutional investors,

and operating firms.

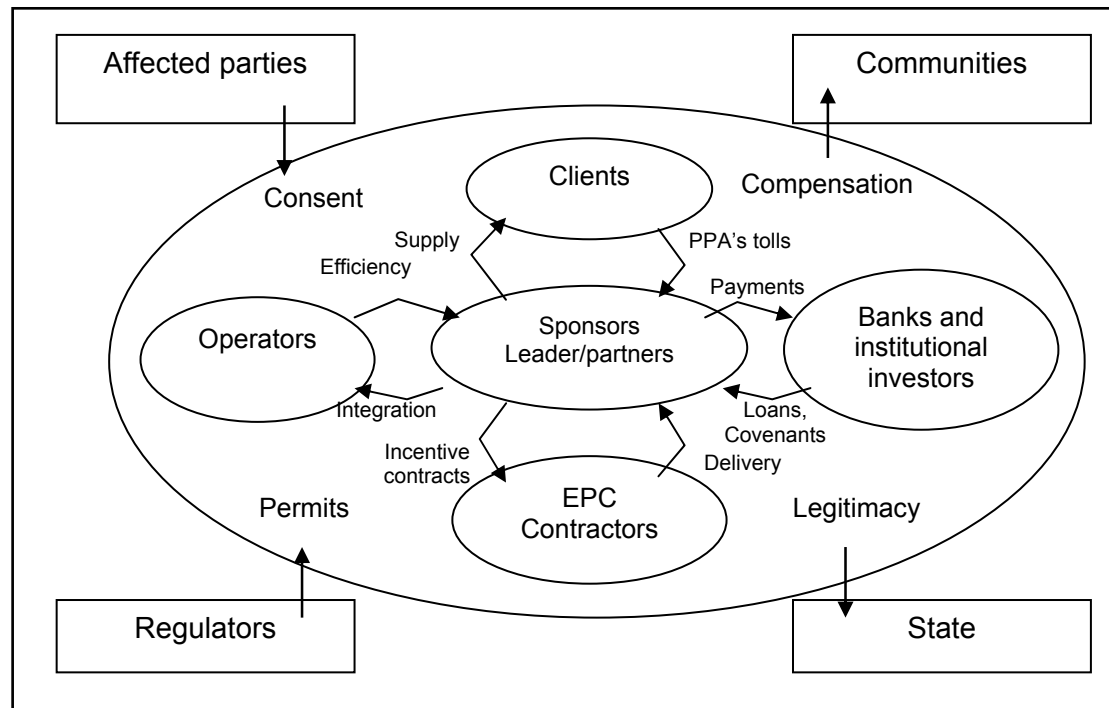


Figure 2.2: Relationships with potential to build

Source: Millar & Floricel, 2000

Given this picture of multiple stakeholder interaction, the somewhat cynical reference of Flyvbjerg to the Machiavellian formula is apposite: “Princes who have achieved great things have been those ... who have known how to trick men with their cunning, and who, in the end, have overcome those abiding by honest principles” (Flyvbjerg, 2005).

2.4.3 The evolution and current state of LCP management – a summary

Since the 1700s, many approaches to initiating, developing and building LCPs emerged. However, as a function of civil society, each approach has generated failure of some kind. Table 2.2 below provides a summarised overview of the key inefficiencies and failures of the three main institutional arrangements as described by Millar & Floricel (2000).

The entrepreneurial approach built projects to solve real regional or local needs but tended to generate market failure and neglect real macro value and

/ or economies of scale. At the beginning of the twentieth century, as technology made scale possible, the rational approach to project sponsorship emerged. The swing in the pendulum saw the state taking ownership of LCPs but soon finding themselves over-regulated and caught up in a bureaucratic jungle. The drop in overall productivity, increased rigidity and scarcity of capital eventually led to the obsolescence of this arrangement.

Table 2.2: Institutional Arrangements – Failures

Entrepreneurial	Rational systems	Governance
Duplicated investment and destructive competition	Network operators are symbols of national pride, tools of vested interests	Vulnerability to government opportunism
Small projects fail to capture economies of scale	Bureaucratization: specialization and formalism led to slow decisions and high overhead costs	Complexity of front-end negotiation processes, which increased transaction costs
Fragmented systems and markets not capturing network economies	Arrogance, inability to deal with ecological groups and local opposition	Rigidity of contractual structures
Tendency to form monopolies to increase prices	<i>Tendency to build expensive and unneeded projects</i>	Incapacity of contractual structures alone to protect from failure and opportunism
Under-investment in under-populated areas	Over-reliance on internal planning and definition of projects precludes joint problem-solving and cost reduction with contractors and equipment suppliers	Predilection for simple and conservative solutions that reduces technical risks but produces technically sub-optimal projects
Rate discrimination between places where there is competition and places where firms enjoy monopoly, as well as between large and small clients	Incapacity to focus on small or marginal projects	Under-investment in projects due to increased selection hurdles
Financial speculation	The 'capture' of regulators who are unable to impose efficient investment	High cost of capital for private projects using project financing
Issues of probity, corruption, accountability and conflict of interest		

Source: Millar & Floricel, 2000

By the turn of the twentieth century, governance arrangements came into being in the form of special contractual arrangements. However, many criticisms are directed at this approach for failing to take real public needs into consideration and for heightening, rather than reducing, risks. With the private and public sectors collaborating more closely than ever before, opportunities



for corrupt practices arose. Even though it is believed that current governance arrangements combine private sponsorship with institutional frameworks that take competition, social consent and public-private partnerships into consideration, no statutory framework exists that could guide, test and evaluate decision-maker conduct.

Currently no optimal solution exists. Each type of institutional arrangement induces some form of failure that has to be corrected. Governance arrangements aim to remedy the failures of rational systems, but they currently generate failure due to opportunistic behaviour, state withdrawal and, possibly, under- investment.

Millar & Floricel's view is apposite (2000): "The search for a balance of responsibilities and risks among governments and private participants will thus need to continue through realignment of governance arrangements."

The main challenges then for institutional arrangements are:

- To balance entrepreneurial drive (and greed) with what is good for the macro economic, social and environmental environment
- To establish the optimum balance between regulatory controls and commercial initiatives
- To be pro-active, rather than reactive, in creating an environment wherein LCPs can be developed and implemented.

Eventually all stakeholders, including regulators, funding agencies, interest groups and the public will have to seek a hybrid framework that will govern the development and implementation of LCPs.

2.5 Governance principles in LCPs – the point of departure

The evolutionary process from entrepreneurial to rational-system to governance arrangements was driven by inefficiencies that became 'unbearable' for society, unaffordable for the state and questionable ethics in business



conduct. From an economic perspective, the evolution can be seen as contingent adaptations to changing statutory circumstances. Various models of industrial organisations have been researched in the past, with the majority seeking the all-elusive perfect balance between industry structure, regulation and entrepreneurial / shareholder incentives (Laffont & Tirole, 1993).

With governance being the latest form of institutional arrangement, it could well be that not all of its components, mechanisms and processes have been identified and developed. Based on debate, research and testing, it is believed that the conditions required to produce and reinforce competitive structures are sets of rules and regulations that produce effective constraints, reduce uncertainty and solve collective-action problems (North, 1990). To achieve this, a well-defined, stable project governance framework is required, as opposed to contractual arrangements from which mutual relationships are derived.

According to Millar *et al.* (2000) the development and implementation of coherent and well-developed institutional arrangements is one of the most important determinants of project performance. Scott (1994, 1) refers to institutional arrangements as the *visible structures and routines that make up organisations are direct reflections and effects of rules and structures built into (or institutionalised within) wider environment*. This observation fully supports, and underlines, the motivation of this study. It entrenches the quest for sponsors and their project managers to be beware of the dangers of institutional arrangements within their organisations. If fixed and not structured around the project but rather the organisation, the project team can easily succumb to operating in a vacuum and fail to find a structure of practices, guidelines, roles and obligations that help to anchor the unique requirements of the project. Although it is accepted that institutional arrangements will eventually manifest in sets of laws, regulations and agreed practices, these have to form symbiotic relationships that lead to the provision of effective ways to develop projects. Scott (1994) defines this phenomenon as regulative, normative and cognitive structures that form social frameworks within which projects operate. These frameworks not only provide a sanctuary for



business conduct but also help to make risk management and the infusion of governability possible by providing the structure for contracts, binding agreements and legal action. The development of such a macro supportive environment for projects in effect ‘anchors’ the project, ensuring a solid point of reference and stable framework for control (Millar *et al.*, 2000).

Responding to the LCP dilemma, and to poor project performance in general, Ekstedt *et al.* (1999) investigated the institutional dilemma of a more project-orientated versus an operational society. Their research supported the ‘anchoring’ conditions described in the previous section with specific reference to the combination of stability and reliability with the concurrent demands of flexibility and focus in functional orientated, stable organisations. Their research concentrated on a project-orientated environment, where teams form temporary organisations with the specific intention to bring about change and renewal. Once the project objective is met, the temporary organisation dissolves. This approach prompts researchers to look beyond the immediate LCP environment to the business environment in general. The link to corporate governance emanates from this thinking and, with the acceptance that the development of general management philosophies are well ahead of project management philosophies, perhaps a few lessons could be learned from the corporate governance field.

2.6 Towards a project governance framework – current thinking

Since the start of the third millennium, articles and literature on the governance of LCPs has steadily increased. Although it is difficult to give recognition to an individual or institution that may have prompted the process, some of the leading institutions and academics have added their voices to the definition of project governance.

Thus far, only two industries have made an attempt to define and contextualise the concepts of project governance, namely the LCP environment, specifically PPPs, and the information technology (IT) industry. There is a substantial difference in the approaches taken by the two industries



towards defining project governance. Although it is not the purpose of this study to compare the two approaches, it is necessary to mention that the IT industry focuses more on protection and access control to information (Turbin, 2003; Liu & Yetton, 1995; OGC, 2005), while the LCP related industries concentrate on creating a macro environment within which projects can function. For both industries, no mutually agreed upon project governance framework exist.

The focus of this study is LCPs and one of the most practical attempts to address compliance to specific management actions and responsibilities thus far can be found in the document compiled by the United Nations Economic Commission for Europe (UNECE) (United Nations, 2005). Focusing specifically on PPPs, the document highlights the importance and complexity of managing large infrastructure projects and proposes a benchmarking module to measure the extent to which organisations achieve governance in PPP projects. Key areas for benchmarking are transparency, public accountability and sustainable development. Although assessed in fair detail, the narrow definition of governance towards mostly public interaction could limit its application to private enterprise and LCP in the broader context of macro and global applications.

In a study done on PPPs of tollway projects in Indonesia, Abednego & Ogunlana (2006:622-634) identified risk allocation as a major source of dispute among the involved parties. They also observed the dual role of the project manager where, on the one hand, day-to-day project management activities require much attention and, on the other hand, nurturing the partnership and interaction with the public can potentially consume valuable time.

The allocation of risk in PPPs is further elaborated on by Shen, Platten and Deng (2006). Tending towards the rational system, the construction of the Hong Kong Disneyland is used as an example of risks that should be identified and classified. This classification of risk could assist in allocating risk responsibilities and is given below in Table 2.3.

Fisher, Jungbecker and Alfen (2006) investigated the formation of special Task Forces on PPPs in Germany. Their research found that task forces improved potential project delivery and focused on: providing a project support function, managing inherent project knowledge, establishing the project policies, and developing the overall framework within which the project should function.

Table 2.3: Risk Categories

Risk Category	Example
<i>Project-related risks</i>	Cost and time overruns, poor contract management, contractual disputes, delays in tendering and selection procedures, poor communication between project parties
<i>Government-related risks</i>	Inadequate approved budgets, delays in obtaining permissions, changes in Government regulations and laws, lack of overall project controls, administrative interference
<i>Client-related risks</i>	Poor project brief, variations in project specifications, delays in the settlement of contractor's claims, lack of project control
<i>Design-related risks</i>	Poor soil investigations, delays in design, ambiguities and inconsistencies in design and design changes
<i>Contractor-related risks</i>	Inadequate estimates, financial difficulties, lack of experience, poor management, difficulty in controlling subcontractors
<i>Consultant-related risks</i>	Lack of experience, performance delays, poor communication with other parties
<i>Market-related risks</i>	Increase in wages, shortages of technical personnel, material shortages, equipment shortages

Source: Shen, Platten and Deng (2006)

Jaafari (2001) elaborated on the complexity of risk assessment and strategic alignment on projects and calls for a more strategy-based approach to project management. With this approach risk assessment is not confined to an individual assessment but includes a broader spectrum that covers promotion, market, political, technical, financing, environmental, cost, schedule, operating, organisational, integration and *force majeure* risks.



In Denmark, where the functioning of PPPs was abolished in 2002, due to various controversies, the emergence of this type of project institutional arrangement is again emerging. Under the directorship of government, new forms of arrangements have been established under the umbrella of meta-governance (Koch & Buser, 2006). This framework, still in its initial stages, addresses four key areas, namely: comparator, guidelines, feasibility study criteria and (very significantly) a central competence unit. The competence and skill level of project initiators and developers, as well as the ability of project decision makers have become critical issues globally - a problem experienced by both the developed and the developing world.

The observation of competence, specifically the lack thereof, and the impact on project decision-making regarding PPPs, is further elaborated on by Devapriya (2006). In this research it was found that tying performance of management to the financial structure of regulated PPP organisations is undermined, especially in developing and emerging economies.

Realising the importance of visualising the project outcome Yeo (1995) proposed a systems approach to defining LCPs, with specific reference to the development of the Singapore airport. Due to the complexity of LCPs Yeo (1995) introduced three systems perspectives namely a large-scale living systems perspective, hard systematic perspective and soft systemic perspective. Through integration of the three systems perspective Yeo (1995) believes mental frames of reference are formed that will assist in planning and executing projects.

To further strengthen the mandate of the project manager Jolivet and Navarre (1996) introduced the approach of self-organisation and meta-rules. Their approach focused on the following:

- Maximum individualisation
- Setting up autonomous teams built on principles of self-organisation
- Performance of audits for the purpose of verifying that all the common rules and meta-rules are properly applied



- Project manager autonomy
- Dynamic segmentation
- Cellular division by segmentation into operational units on a human scale
- Resource control under the authority of the project manager
- Every project has its explicit set of objectives, policies and rules
- Every project has its dedicated set of written procedures
- All projects are conducted along a specific and limited set of 12 management principles correlated with success

Even though the approach by Jolivet and Navarre (1996) aimed towards strengthening the project manager's position, it still lacked clear directives for the project sponsor to create an environment within which the project manager could function.

Through the IMEC study, institutional, corporate and available project governance literature, and various interviews centred around the British Private Finance Initiative, as well as the Norwegian project approval process, Miller and Hobbs (2005) initiated a research program to investigate governance regimes for large complex projects. The basis of their research is founded on eight themes, namely:

- Long, complex and critical front end of LCPs
- The embeddedness of LCPs into institutional frameworks
- The construction of coalitions of operating networks
- High risk and uncertainty
- The project life-cycle, especially the shaping of the development process
- The impact of the strategic definition
- The strength, ability and capability of sponsors
- The level of intense scrutiny

Given the background and comprehensiveness of the research that eventually produced the eight themes, there is no doubt that the listed themes should be part of the core of any governance framework. Accepting the complexity of the



earlier phases of an LCP, the difficulty in identifying risks (let alone allocating the risks), as well as the importance of establishing the network of relationships, an eventual framework for project governance should be instrumental in either establishing an institutional framework or supporting an existing institutional framework.

The last observation, that of establishing or supporting an institutional framework, is a key differentiating factor for the continuation of this study.

2.7 Towards a project governance framework – a different approach

Until recently, the inefficiencies of the entrepreneurial, rational and governance arrangements prompted the quest for better ways of managing LCPs. In essence, this approach has been reactive, evolutionary and internally focused. The development of these institutional frameworks was done with limited benchmarking and very established new institutional arrangements.

In 2004 the Association for Project Management (APM) published a standard titled “Directing Change: A Guide to Governance of Project Management” (APM, 2004). The standard was the first major advancement toward establishing a framework for project governance. However, it contained the following points of departure:

- The focus is on the *governance of project management*, and not on project governance - quite a difference in emphasis. Whereas the standard looks at practising the function of project management (micro), project governance looks at the environment within which project management will be practised (macro).
- Upon completion of the standard, a compliance comparison was done against the Sarbanes Oxley Act of 2002 as well as the UK Listing Authority’s Combined Code of 2003. The standard was therefore not developed with the two statutory codes as points of departure but was rather aimed at establishing an autonomous institutional framework.



After reviewing the performance of LCPs, the evolution of institutional arrangements to manage them and the development of a standard to govern project management, the question arises whether the approach to establishing a project governance framework should not be altered. To date the approach has been to establish something 'new' in the form of agreements and controls that can stand-alone. This approach could be countered with alternatives, variables and cross-questions, such as:

- Should project governance be a stand-alone framework or should it be linked to / supported by other governance frameworks, especially corporate governance?
- What are the real differences between project and corporate governance?
- Is there anything we could learn from corporate governance as an institutional arrangement?
- With limited available theory on project governance, perhaps a fundamental investigation into the principles of governance could add value. As with the study on the evolution of institutional arrangements for LCPs, this will necessitate a similar study on the evolution of corporate governance.

Given the contents of the APM standard and institutional arrangement evolution, it is clear that two schools of thought exist, namely:

- The *project control school*, whereby the proper management of the total project life-cycle should allow for eventual success of the project outcome, and
- The *governance school*, where the forms of contract should prevent misconduct.

The two schools have different shortcomings. The main shortcoming of the project control school is its reactivity and its direct exposure to external variables and forces. The governance school focuses more on institutional aspects to set up appropriate contractual arrangements. However, as is well known in the project management fraternity, contract management is a sub-component of procurement management, which is but one of nine project



knowledge areas (PMBok, 2004).

No empirical research or data exists that discusses the concept of project governance in the sense that is described above. To investigate and derive conclusions on the concept of project governance, further literature study on the context of corporate governance and its application to LCPs is required, followed by selective discussions with seasoned project professionals and academics. The panel of subject matter experts (SMEs) should comprise people with a minimum number of years' experience in project management and preferably, if possible, exposure to entrepreneurial, rational-system and governance arrangements.

2.8 Summary

In this chapter, an attempt was made to illustrate the complexity of initiating, forming and implementing LCPs. The difficulties in establishing the most effective environment for project performance were illustrated by the evolutionary process of institutional design that could be traced back to the early 1800s. Well captured by Miller and Lessard (2000), the evolution from entrepreneurial to rational to governance arrangements each brought about inefficiencies that had to be addressed by the successor.

The current LCP environment finds itself very much in a state of flux, where a hybrid of entrepreneurial and rational approaches manifests in some form of governance arrangement which is *per se* not well defined. Adding other constraints such as lack of capital for LCPs in most countries, globalisation, stringent statutory requirements and external pressure to perform ahead of any form of competition, the environment within which the project manager operate becomes, to a large extent, unbearable.

In order to provide some assistance to project managers, as well as to protect general stakeholders against potential malpractice, some initiatives have been launched on various fronts to establish some form of governance framework for projects. The two most significant attempts have been the research



initiated by Miller and Hobbs (2005) and the APM's "Directing Change: A Guide to Governance of Project Management" (APM, 2004). The latter is probably the closest attempt to forming a framework for LCP governance, with the most significant aspect of the APM document being its focus on governing the function of project management, as apposed to the project being seen as an entity, or a temporary organisation, for that matter.

Instead of developing a project governance framework from first principles and from the perspective of the project manager, this research seeks to gain insight and knowledge from other management disciplines and practices that are more mature in the field of governance. In the field of governance the corporate world has come a long way with much more work done on establishing the measurement criteria, the contents and the level of prescriptive practices. As this chapter centred around an attempt to better understand the management of LCPs, the discussion in the following chapter will aim towards a better understanding of the evolution of corporate governance. It must be noted that the history and evolution of corporate governance as an institutional directive spans a much longer period, with the lessons learned being very well documented. It is believed that these lessons learned, and the eventual frameworks arrived at in corporate governance, could be invaluable in the eventual establishment of a specific framework for project governance for LCPs.



Chapter 3: Literature study Phase II - The Evolution of Corporate Governance

The poor performance of large capital projects and lack of formal guiding or steering mechanisms appear to be major shortcomings in the project management fraternity. These shortcomings prompted the need to review and investigate governance principles in the project context, with the eventual objective of establishing a *project governance framework*.

The objective of this chapter is to study and develop a literature base for the logical deduction of a draft project governance framework.

Instead of studying and researching governance from basic and fundamental principles, an approach of adaptation and application of current corporate governance principles to large capital projects is taken. This approach is founded on the belief that corporate development and organisational management thinking and research are at a more advanced level than that of project management. The discipline of project management is thus in a position to learn from corporate developments, but with project management we need to review the uniqueness of projects with respect to operational organisations, adapt good practices and refine a customised application.

In building an argument through literature review, this chapter will follow a sequential approach as graphically explained in Figure 3.1 below.

In order to contextualise the eventual concept of project governance it is imperative to briefly review the evolution of modern-day corporate governance, especially the controlling, legal and governing factors and mechanisms that lead to the development of the concept of a company and the subsequent formalisation of corporate governance. Secondly, the components of corporate governance, as well as its application to an operational entity, are studied. Thirdly, the latest developments in the field of

corporate governance are reviewed. This is followed by a discussion of the different approaches to be considered when debating further enhancement of corporate governance and development of a project governance model. The different approaches will be considered when developing the project governance model in the following chapters.

The resultant reasoning of the literature review will provide a key input to the next chapter where the further research strategy and methods are discussed.

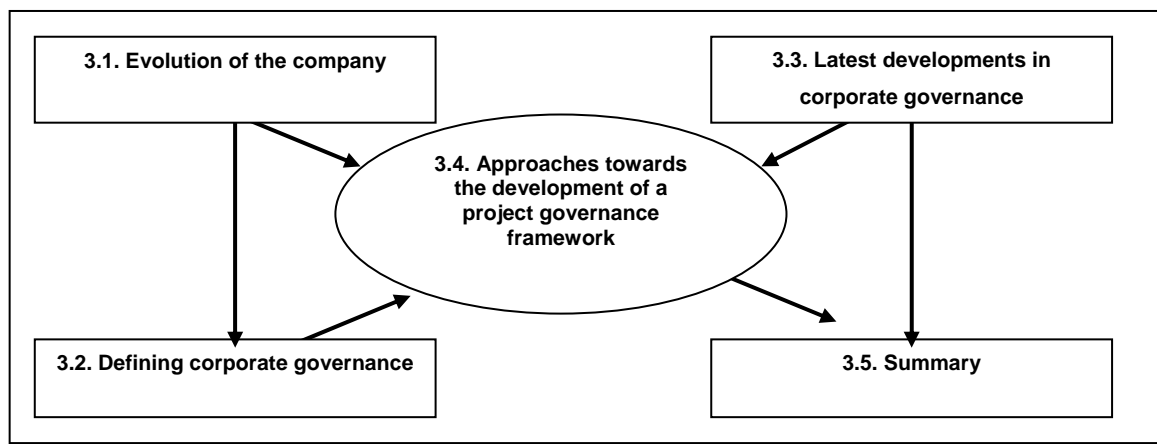


Figure 3.1: Chapter structure

3.1 The evolution of the corporation

According to Micklethwait and Wooldridge (2003:13) the formation of organised business can be traced back 3000 B.C. Merchants, marauders, imperialists and speculators dominated business and public life for many centuries and, although they did not form fully fledged companies, they created powerful organisations that changed commercial life. These organisations developed and implemented various concepts of control and risk sharing and the developments form part of the evolutionary process of formulating corporate governance. This could also be the starting point for the further development of project governance. Figure 3.2 below provides a graphical outline of the process to be discussed and is referred to in detail in the following paragraphs.



3.1.1 The origin of trade agreements

Baskin and Miranti (1997:29) refer to some of the earliest evidence of formal, regulated trading that was found in Mesopotamia, where Sumerian families traded along the Euphrates and Tigris rivers with contracts that rationalised property ownership. The church served as both bank and state overseer. During the period 2000 –1800 B.C. the Assyrians had a formal partnership agreement with church elders, towns and merchants (Jay 2000:49). Under the terms of the partnership agreement, some 14 investors put 26 pieces of gold into a fund run by a merchant called Amur Ishtar, who himself added four pieces of gold. The fund was to last for four years and the merchant was to collect a third of the profits. This arrangement was very similar to modern day venture-capital funds used on specific high risk commercial projects.

The Phoenicians, and later the Athenians, took this form of regulatory capitalism to the ocean, thereby spreading the formation of formal agreements around the Mediterranean (Micklethwait *et al*, 2003:14). The involvement of merchants and traders across country boundaries prompted the Athenians to develop the concept of formal agreements further by starting to rely on the rule of law rather than the goodwill of kings. Even though this development proved to be a significant step in the business separation of king and businessman, Athenian businesses remained small and mostly controlled by a few people. This reminds one much of the entrepreneurial approaches originally taken by individuals who saw opportunity in infrastructure developments.

3.1.2 Privatisation

The Romans were slightly more ambitious. Initially the collection of taxes was entrusted to individual Roman knights. However, as the Empire grew, the levies became too large to be handled by the kingdom itself and by 218-202 B.C. companies (*societates*) were formed in which each partner had a share.

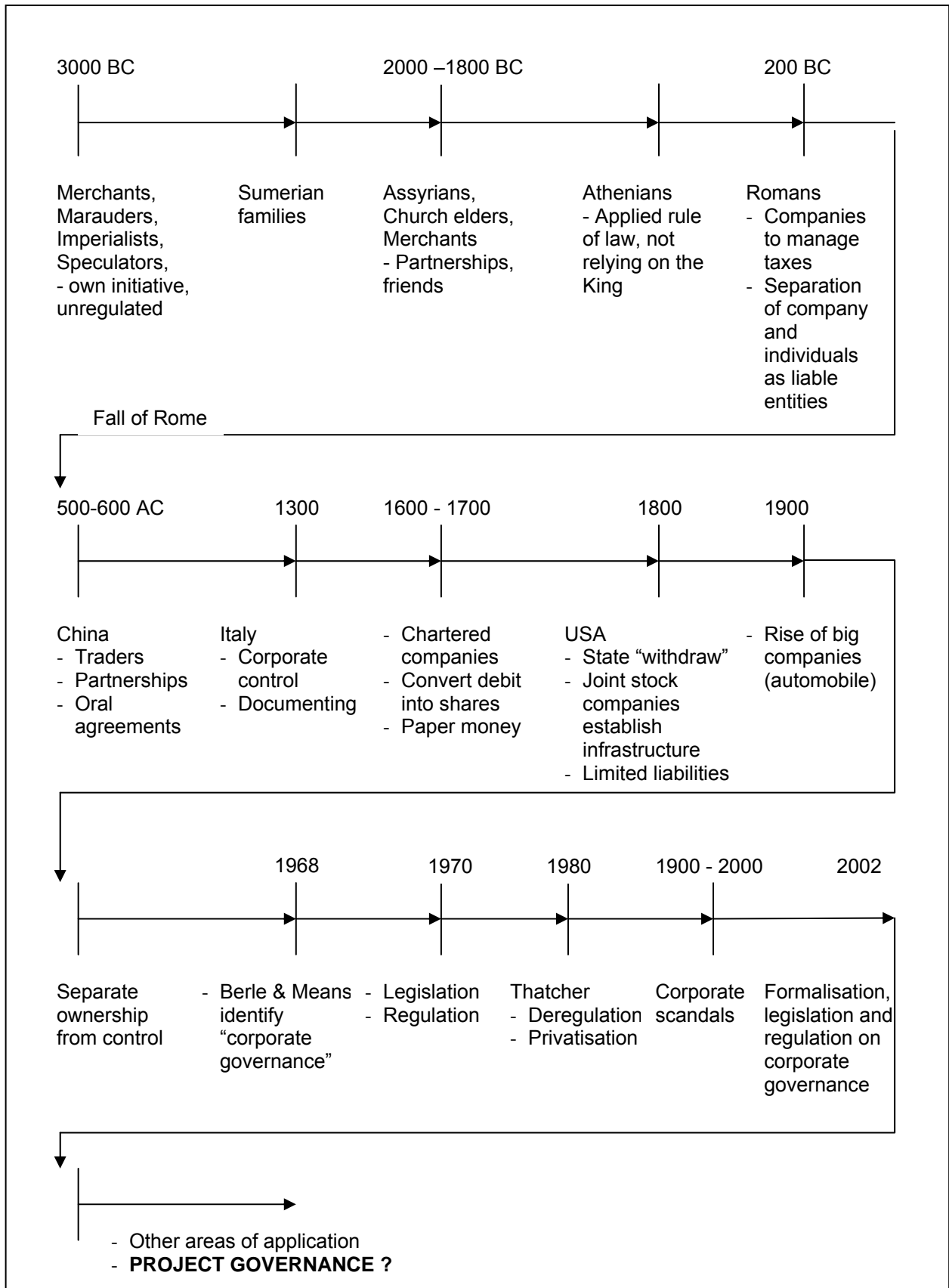


Figure 3.2: The evolution of business relationships towards corporate governance



According to Moore and Lewis (2001:67) these firms later became commercial suppliers of traditionally government-controlled commodities, such as shields and swords for the legions (again a reminder of the entrepreneurial arrangement). These practices remind one of modern-day privatisation of state-controlled activities and assets. Moore *et al.* (2001:97) explained that further vertical development took place through craftsmen, artisans and merchants who formed guilds (*collegia* or *corporata*) and ‘sub-contacted’ their skills and trade to the *societates*. The managers of the guilds were elected and were supposed to be licensed (Jones, 1974).

Oscar and Mary Handlin (Handlin & Handlin, 1953) refer to the statement made by William Blackstone, the eighteenth-century jurist, that the honour of inventing the formal company “belongs entirely to the Romans”. Although an arguable view, the statement bears truth in the sense that the Romans did initiate some of the basic concepts of corporate law, particularly the idea that “an association of people could have a collective identity that was separate from the individuals belonging to the association” (Micklethwait *et al.*, 2004:14). They also linked companies to the *familia*, the basic unit of society. The belonging partners, better known as *socii*, seconded most of the managerial decisions to a *magister*, some form of general manager or managing director. The firms also had some form of liability regarding taxes and the associates and were therefore subjected to some form of governance.

When the Roman Empire started to show signs of weakness during the period 500 to 600 AC, the activity of commercial life moved eastward to India, China and the Islamic world. According to Micklethwait *et al.* (2004:15) the prophet Mohammed was a trader during the years 569 to 632.

Until this day it is still unclear why the Chinese and the Arabs lost their economic lead to the West. One can argue that their relative failure to develop sustainable business enterprises contributed to their economic demise. Still, Islamic law allows for a form of flexible trading partnership which lets investors and traders jointly pool their capital. However, the law relies on oral testimony, rather than written contracts. In China’s case, the idea of permanent private-



sector businesses was mostly undermined by both culture and state interference. The latter proved to be unsuccessful as bureaucracies crept in, thereby stifling any entrepreneurial activity for sustainable economic development. Eventually, it could be argued that China's obsession to look inward proved to be their Achilles' heel (Micklethwaite *et al.*, 2004:17). Nevertheless, the groundwork for the conceptual framework of a formal corporate entity, with fixed agreements between participating parties, was firmly established and awaiting further development.

Subsequent to the demise and stagnation of Eastern and Middle Eastern business enterprises, the development of organised business activities moved to Europe - especially to Italy. This fascinating development is well illustrated by the extraordinary life of Francesco di Mari Datini, well documented by Iris Origo (1992) and also mentioned by Micklethwaite and Wooldridge (2003). Datini produced the first well-recorded management database. An orphan from the Tuscan town of Prato, he went to Avignon around 1335 and worked as an apprentice before starting his own *compagnie* as a young man. He was among the first to define a business vision or motto - as well as being among the first to not follow a defined motto. Although his motto was 'For God and Profit', his first venture gave evidence of all but that and included some arms dealing. Later he branched into more noble industries like textiles, retail and jewellery, but eventually returned to questionable practices that included slave trading. However, his original intent of doing well came to the fore when the childless Datini left all his belongings to the poor people of Prato.

Apart from his entrepreneurial flair and active merchandising, Datini was ahead of his time in terms of corporate control. He recorded everything and expected the same from his managers. Currently an archive exists containing more than 150 000 letters, 500 ledgers and 300 partnership agreements, which seems remarkably modern. His management style contained near-daily letters to his managers and suppliers asking for news, numbers and accounting figures and giving reprimands. He even provided formal promotions and allocated responsibilities to positions and provided legal papers for appointments. Even his margins seemed meagrely modern at a



mere 9% profit. Datini's management approach and understanding of the corporate world was astonishing for the times he lived in and exemplifies many of the elements captured in the modern day, such as striving for good corporate practices, governance and control. As quoted by the biographer Origi (1992:81): "He believed neither in the stability of government, nor the honesty of any man. It was his fear that caused him to distribute his fortune in as many places as possible, never trusting too much to any partner, always prepared to cut his losses and begin again".

The sixteenth and seventeenth centuries saw the emergence of 'chartered companies' (Micklethwaite *et al.*, 2004:25). This form of company represented a combined effort by government and merchants to regulate and control the riches of the new world opened up by Columbus (1451 – 1506). With established government influence, these companies were the recipients of royal charters, giving them exclusive rights to trade with demarcated regions of the world. This arrangement and influence established the ongoing concern about the political power and interest in corporate decisions, hidden agendas in decision-making, conflict of interest and eventual bribery. Nevertheless, this time of corporate development saw the establishment of well-known, long living companies such as The East Indian Company (that lasted for 274 years) and The Hudson's Bay Company - founded in 1670 and still in existence. Even though there were still numerous small companies operating, the large chartered companies became dominant in the trading world and were the forerunners of parastatals and corporate bureaucracy.

3.1.3 The state and the management of national debt

The caveats created by good government intentions and capitalist greed are best described by some of the earliest recorded financial disasters, commonly referred to as 'bubble bursts'. Probably the single largest financial bubble burst occurred during the early eighteenth century, when the governments of France and Britain used two chartered companies, the Mississippi Company in France and the South Sea Company in England, to restructure and service the cost of debts incurred during the wars that occurred between 1689 and



1714 (Micklethwaite *et al.*, 2004:36). The two companies were used to convert government annuities, which paid fixed interest, into low-yielding shares.

With pure governmental and statutory intentions, the eventual disaster was initiated by a brilliant French mathematician called John Law. According to Ferguson (2001), Law's plan was to 'rescue' France from its rampant inflation, shortage of coins and unstable currency by introducing paper money. Through Banque Royale, Law obtained control over the French money supply, bid for a trading concession and formed the Mississippi Company. Through the newly formed company, Law converted a large portion of the French debt into shares in the company. The Mississippi Company obtained control over the Royal Mint and eventually controlled the entire colonial trade. Building on the seemingly instant success, Law made a quantum leap in his business venture and converted the entire national debt into company shares. The public responded in mass frenzy and even bought shares on call options in order to 'get in on the action'. Within 15 months between 1718 to 1720, the value of bank notes issued by Bank Royale rose from 18 million livres to 2.6 billion livres.

The question of ethics, control, public accountability and eventually governance, come to the fore through one observation quoted by Dickson (1993:84): "It is inconceivable what wealth there is in France now, everybody speaks in millions. I do not understand it at all, but I see clearly that the God Mammon reigns an absolute monarch in Paris."

Law avoided the question of what his company actually did. The frenzy could not last and in early 1720 a large number of investors withdrew their investment in the Mississippi Company and invested in the bull market in London (Dickson, 1993:72). In December 1720 the Bank Royale was forced to abolish paper money and closed down. With a false passport, Law fled to Brussels, leaving France in complete disarray and chaos.

Although using the same mechanisms and tactics as the Mississippi Company, the impact of the collapse of the South Sea Company was not as



severe (Micklethwaite *et al.*, 2004:41). The South Sea Company was formed for the same purpose, i.e. that of converting national debt into shares, and was proclaimed in January 1720. By July 1720 the share price rose from £128 to £950, causing a stampede of investors buying company shares. With other stock companies coming to the fore, the South Sea Company directors used their influence in parliament to have an act passed that restricted the set-up of new stock companies. The act was called, ironically, the Bubble Act of June 11, 1720. The act was a disaster for the evolution of the concept of the corporation and inevitably the South Sea Company went under in December 1720. Eventually the government rescued some of the value by nationalising the company, leaving investors with huge losses but saving the financial system.

The reputation of the corporation was in disarray. Sampson (1995:17) quoted Sir Edward Coke complaining that “Companies cannot commit treason, nor can they be outlawed or excommunicated, for they have no souls”. Micklethwaite *et al.* refer to Edward Thurlow who added to this criticism by saying “Corporations have no souls to be condemned, they therefore do as they like.” (Micklethwaite *et al.*, 2004:41) Recovering from a poor reputation, companies would take about a century before the revitalisation of the corporate identity came from America during the early 1800s.

3.1.4 Separating the state from the company

During the first half of the nineteenth century, the state began to step back from corporate affairs. According to Micklethwaite *et al.* (2004:51-52) the prompt for change was threefold: the impact of railroads, the legal system and politics.

The demand for rail transport required large amounts of capital for rail track development. The state could not fund the development and the entrepreneurial era, as referred to by Millar and Lessard (2002) and discussed in length in Chapter 2, emerged. In the corporate world, the formation of these entrepreneurial relationships led to the concept of joint-stock companies. With



their input limited, the state's mandate for control over corporate affairs diminished. The contribution of the legal system to the separation of state and company came in the form of a ruling regarding the status of Dartmouth College in 1819. In the ruling, the Supreme Court found that corporations of all sorts possessed private rights, in which case the government could not rewrite their charters without involving companies.

The last and most significant contributor to the divorcing of state and corporations was political. Concerned that the various states were losing business opportunities, the legislature in New England started to loosen their grip and eventually their control over companies, setting them free to pursue their entrepreneurial drive. This was quickly followed by the Massachusetts state legislature determining in 1830 that companies did not need to engage in public works to be awarded the privilege of limited liability. In 1837, Connecticut accelerated the process by allowing firms to become incorporated in any form of business without special legislative enactment.

3.1.5 Managerial capitalism and limited liability

With the state as, supposedly, protector of public interest and retreating from direct company influence, the question of limited liability appeared. The first link to the concept of governance can be found in the arguments that followed - from the 1830s until modern times - around responsibility and accountability of corporations and later on the individuals responsible for decision-making.

Fuelled by the development of the automobile towards the end of the 19th century, the big company concept, or corporation, was firmly established by the time of the First World War (Micklethwaite *et al.*, 2004:102). Monks and Minow (1995:6) define a *corporation* as a “mechanism established to allow different parties to contribute capital expertise and labour for the maximum benefit of all participants. The primary reason for the corporation's existence is wealth maximisation”. The Penguin English Dictionary (1985) defines a *corporation* as “a body made up of more than one person who is formed and authorised by law to act as a single person with its own legal identity, rights



and duties". Considering these views, a corporation can therefore be defined as a *legal entity established to group together a number of people who perform synergistic activities.*

Whatever the academic or scientific definition of the corporation, its impact on business and public relationships has become dominant, especially in an ever increasingly capitalist society.

3.1.6 The emergence of the corporate governance dilemma – separating ownership from control

The withdrawal of the state from most of the commercial world and the strong emergence of the entrepreneurial drive provided the platform for modern business societies and the foundation for the developed world, as it is known. From the early 1900s management as a science started to emerge and corporations started looking at various ways to improve operational effectiveness of their businesses.

By 1920 the gradual separation of ownership and direct control started to emerge. The strategic decisions still remained with the owners but they could not attend to all management details in large corporations. Big company founders, including King Gillette, H.J. Heinz and John D. Rockefeller, turned to professional managers to oversee the day-to-day running of their empires (Micklethwaite *et al.*, 2004:103). It seems as though the typical company executive, at a strategic level, was classified by professional standards and corporate loyalty during these years. Later on, they appeared to be closely related to corporate obsession and the absolute necessity for annual growth in profits in order to satisfy the faceless shareholder.

King (Institute of Directors, South Africa, 1994) also dates the origin of the public limited corporation back to the nineteenth century. He mentions the schism between ownership and control, with reference to the shareholders as owners of the enterprise and the board of directors as the controlling body of the company. The directors then appoint professional managers to manage

the company pursuant to policies established by the board. This separation, and in some instances delegation, of responsibility from directors to managers became contentious with respect to final accountability to shareholders.

Eventually, management of the modern corporation consisted of professional individuals, the so-called officers of the corporation, under the direction of the Chief Executive Officer (CEO). The board of directors, appointed by and representing shareholders, appoints the officers of the company to manage operational activities. A logical deduction could then be that the board of directors, and their appointed professional management team, should all act in the interests of the shareholders, who are ultimately the owners of the corporation and demand maximisation of their interests in the corporation. Figure 3.3 below depicts part of the organisational structure of a typical corporation. Gitman (2003) adds to the reasoning by noting that the goal of the corporation is not to maximise profit, but rather to maximise the wealth of the shareholders for whom the corporation is being operated.

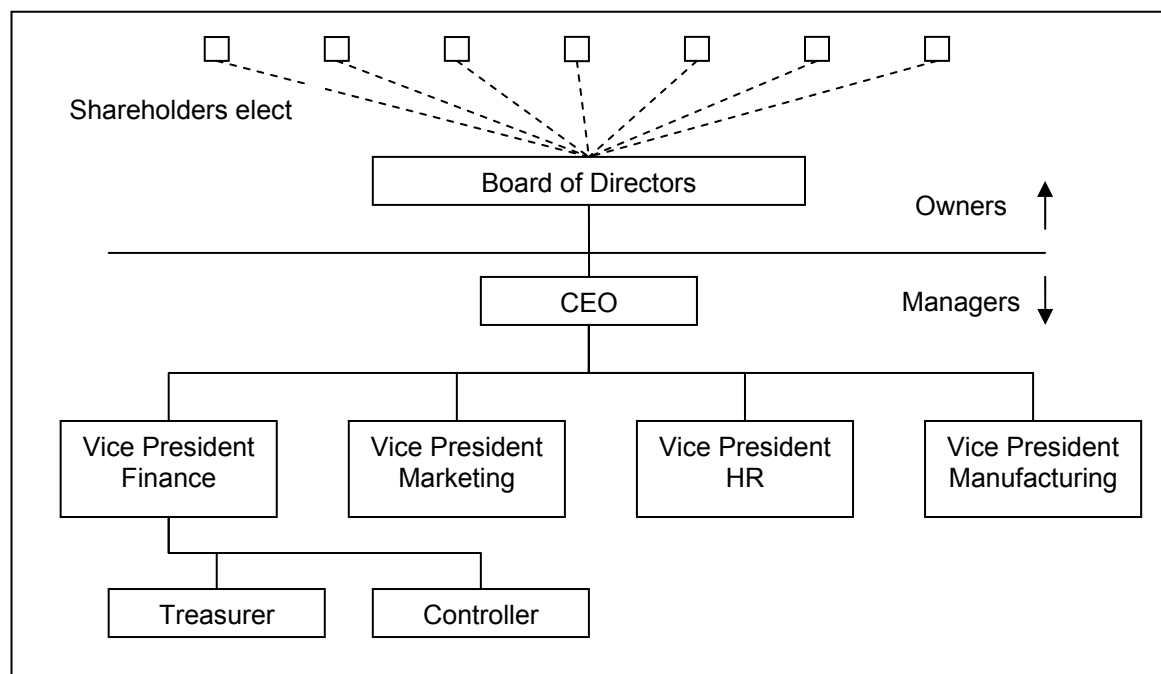


Figure 3.3: A typical corporation

While this might have been true in early corporations where the management team, the board of directors and the shareholders were all inherently the same



people, the modern public corporations can have numerous, and sometimes countless numbers of different shareholders, many of whom have little or no influence over the way in which 'their' company is managed. This is due to the small number of shares the typical private investor would keep in relation to institutional shareholders and even some of the company's directors and managers.

In 1932, Adolf Berle and Gardiner Means published the first edition of their book *The Modern Corporation and Private Property* (Berle and Means, 1968). The book was the first to formally observe the distribution of corporate wealth in America and highlighted the observation that more than half the assets owned by corporations were concentrated among the top 10% of all listed companies. For example, AT&T controlled more assets than the 20 poorest states in the USA. However, these new oligopolies were owned not by barons but by millions of ordinary shareholders, mostly voiceless and similar to modern day equity funds or unit trusts. This phenomenon gave rise to the belief that 'anybody's business is nobody's business'. Berle *et al.* (1968:219-229) further argued that the passivity of these millions of shareholders had "frozen the absolute power in the corporate management arena". In economic terms, the interest of the agent was separate from that of the principal. Although theorists always promulgated the separation of ownership from control (Micklethwaite *et al.*, 2004:112), Berle and Means were the first to identify corporate governance as a practical problem. According to Micklethwaite *et al.*, in 1942 Peter Drucker, in his book *The Future of Industrial Man*, added his voice to the capitalistic dilemma by arguing that companies had a social dimension as well as an economic purpose. The recognition of the social dimension was the beginning of the 'triple bottom-line' concept prevalent in modern corporate governance policies and which comprises a balanced approach to economic, social and environmental impact and consideration.

During the 1970s big companies were expected to support the post-war consensus and to be more considerate of their stakeholders. The corporate environment became more regulated and in 1971 Richard Nixon introduced



another two forerunners of corporate governance elements, namely the Environmental Protection Agency and the Occupational Safety and Health Administration (Yergin & Stanislaw, 1998:60-64). However, frustration with over-regulation soon became apparent and by 1979 deregulation received a major 'boost' when Margaret Thatcher came to power after public resentment over strikes and staggering inflation. Her approach to privatisation was initially greeted with scepticism and was tagged by the Tories as 'corporatisation' (Micklethwaite *et al.*, 2004:122-123). But by 1982, privatisation had gained momentum, with the government selling its shares in North Sea oil and gas companies such as British Gas. This was followed by the sale of British Airways and British Steel. Other European companies followed suit with Volkswagen, Lufthansa, Renault, Elf Aquitaine and ENI either wholly or partly privatised. In Latin America and Southeast Asia, governments also sold off telecommunication companies and utilities, albeit to their loyal supporters. The most radical privatisation spree took place in Russia under the leadership of Yeltsin. From 1992 until the turn of the century more than 18000 companies were privatised in Russia.

By the end of the twentieth century, the unregulated business environment saw the emergence and establishment of a breed of corporate managers embracing management concepts and techniques to add to, and defend, shareholder value. Pressure on executive boards for bottom line financial performance increased dramatically and Chief Executive Officers and their Vice-Presidents earned astronomical pay cheques as part of their 'risk compensation'.

3.1.7 The institution of formal corporate governance

In 1991 the London Stock Exchange, the United Kingdom Financial Reporting Council and the British accountancy profession commissioned the Cadbury Commission to investigate and report on "Financial Aspects of Corporate Governance". The Cadbury Committee was born out of the scandals that rocked the UK capital during the late 1980s (Dunlop, 1998). In the USA nearly everything had changed by 2002. Many of the top corporate officials



who had graced the front covers of business magazines and journals were facing criminal charges. Corporate accounting scandals plagued some of the most prestigious and largest institutions, namely Enron (Cruver, 2003), WorldCom, Xerox, AOL Time Warner, Tyco and Arthur Anderson. In Europe the same emerged with Ahold, Bertelsmann, Vivendi, SK Corporation, Elf-Aquitaine, Londs and Parmalat being the most prominent offenders. The general public started losing faith in the corporate system and a survey conducted by Seib and Harwood (2002) indicated that more than 70% of American people had no faith nor trust in the corporate world and about 60% believed corporate misconduct was a 'widespread problem'. Something had to be done and by middle 2002 President Bush had signed the Sarbanes Oxley Act (2002), which is arguably the toughest piece of corporate legislation yet to be tabled and which formalises corporate governance into legislature, especially with regard to auditing.

During this period many other countries launched their own investigations (Gillibrand, 2004:6), including Australia (Bosch Report), Canada (Dey Report) and India (Bajaj committee), to name but a few.

Although the end results are clear, namely corruption followed by government 'retaliation' by means of strong legislature, the question needs to be asked: "Where did everything go wrong?" Two schools of thought are evident (Micklethwaite *et al.*, 2004:150-151). The first school includes the Bush administration's belief that corruption resulted from 'bad apples' - the actions that prompted the scandalous behaviour originated from individual greed and not necessarily from a flawed system. The second school of thought adopted the 'rotten root' approach. They believed that the problems originated with privatisation in the 1990s when there was a dramatic weakening in proper checks and balances on accounting and good management practices. Outside directors had compromised their objectivity and independence by having questionable and often conflicting financial relationships with the firms that they were supposed to oversee. Additionally, too many government regulators had been recruited from industries that they were supposed to police. Lastly, the 'rotten root' school of thought believed that auditors had



become business advisors rather than mere scorekeepers of shareholders' interest. Eventually, the old 1920s question of aligning the interests of those who manage companies and those who own them re-emerged.

These two schools of thought, especially the 'rotten root' argument, have a strong relation to the large capital project cost overrun dilemma raised by Flyvbjerg (2003:16), referred to in Chapter 1 and repeated below:

"We therefor conclude that cost overrun has not decreased in the past ten, thirty or seventy years. If techniques and skills for estimating cost overrun in transport infrastructure projects have improved over time, this does not show in data. No learning seems to take place in this important and highly costly sector of public and private decision-making. This seems strange and invites speculation that the persistent existence over time and space and project type of significant and widespread cost overrun is a sign that equilibrium has been reached: strong incentives and weak disincentives for cost underestimation and thus for cost overrun may have taught project promoters what there is to learn, namely that cost underestimation and overrun pays off. If this is the case, overrun must be expected and it must be expected to be intentional."

Apart from the two main schools of thought, Bloxham (2002) listed increased stakeholder activism, globalisation and stronger scrutiny of board practices as three of the major changes that organisations of the 21st century had to deal with, and which pressured them into misconduct. Adding to the unravelling of the underlining reasons for misconduct, Dunlop (1998) reasoned that the need for effective and efficient corporate governance procedures became necessary due to:

- Increased large-scale business failure and excessive executive remuneration in the United Kingdom,
- Capital market abuse in the United States, and
- Corporate and political abuse in Japan.

Although it should be accepted that greed and corruption are inherent to any society, mechanisms should be put in place to prevent their occurrence as far



as possible, to limit their damage and to punish those who make themselves guilty of such misconduct. The Sarbanes Oxley Act was the USA's way of establishing governance criteria for the corporate environment.

Even though they may differ in their detail, virtually all corporate governance guidelines are entrenched in the fundamentals of corporate scandals and social responsibility.

In summary, the evolution of the corporation always had to contend with what is good, ethical, profitable and responsible. In an unregulated, informal, free-trade environment, trust was the cornerstone. However, the abstract concept of greed found comfort in a capitalistic world evolving towards a point of no return for some of its role players. Government and corporations learned the hard, expensive and embarrassing way, but eventually developed a platform for other management disciplines (i.e. project management) to adapt from.

To provide further clarity on how the principles of corporate governance can be applied to a project management environment, the next paragraphs will unravel the definition, logic, components and mechanisms of corporate governance guidelines.

3.2 Defining corporate governance

According to Drori, Meyer and Hwang (2006), the term governance can be traced to the Greek verb *kubernân*, which means to 'steer a ship or wagon'. The term was also used metaphorically by Plato to designate the governing of men, which gave birth to the Latin verb *gubernare*, which is still found in several Latin-based languages. In the early thirteenth century the French term *gouvernance* appeared, while during the same time the Portuguese used the word *governançã* to refer to politico-administrative processes. During the same time the English started using the word *governance* to refer to the action or manner of governing. Somehow the term remained and is used widely in the context of governing institutions.



In the process of defining *corporate* governance, Smerdon (1998:5) first attempted to define corporate responsibility by means of a 'shareholder theory' that describes the primary responsibility of the directors of a company to act in the interest of increasing shareholder value. The theory goes: "Unless companies look after their suppliers, customers, members of staff and the environment (in other words their stakeholders), shareholder value is likely to suffer anyway, and so a well-run board will have to deal with these interests to ensure long-term corporate health and therefore shareholder value".

According to Monks and Minow (1995:2-10) corporate governance encapsulates "the relationship between the various participants in determining the direction and performance of a corporation". The primary participants in a corporation are the shareholders, the board of directors and management led by the Chief Executive Officer (CEO). The reason for viewing these participants as primary is due to the fact that they are responsible for shaping the corporation's focus, its direction, the level of productivity and competitiveness, and ultimately its viability and legitimacy. The secondary participants include employees, customers, suppliers, creditors and the community who are influenced by the other participants that are of equal importance to the corporation and its activities. In their view, corporate governance promotes a type of active shareholder that has an interest in the conduct and performance of the corporation in which the shares are kept. It is proposed that this interest should promote a level of responsibility on the side of the shareholder, especially in terms of conduct that can impact negatively on the environment and society in which the corporation operates. These actively involved shareholders can also be referred to as *shareowners*. The term reflects not only the involvement of the shareholder but also signifies that the shareholder takes ownership of the shares that he keeps in the corporation, and ultimately of the direction and conduct of the entity. Although easily definable for a private corporation, the question remains as to how these principles are applied to other entities where large capital is at stake, for example public service projects, especially when procurement takes place within the private sector? In such cases, the shareowner may well be the tax



paying public and mechanisms of governance may well be functioning in a different format.

Naidoo (2002:2) refers to corporate governance as the responsible leadership of companies. She refers to responsible leadership as being transparent, answerable and accountable to the company's identified stakeholders. She notes that a company's stakeholders are those groups or individuals who are either directly or indirectly interested in the affairs of the company. Direct interest means direct interest in its financial success (shareholders, creditors and employees) whilst indirect interest means those who are affected by the company's activities (communities and governments). In Naidoo's introduction, the issue of division of ownership of a company and control of a company is highlighted. The 'issue' results in the directors of a company representing the *de facto* owners (the shareholders) in directing and controlling the affairs of the company. Today this is the norm in almost all publicly listed corporations and is also cited as being the core problem of corporate governance. The board of directors (in their policy making) and the officers of the corporation (in the execution of these policies) reveal a general disregard for the influence on the environment and the community of their actions in maximising personal and shareholder benefit.

King (2002:10) defines corporate governance simply as the system by which companies are directed and controlled. He does mention though, that while it is a simple task to state the concept, the various stakeholders who have involvement in corporate governance in modern corporations have made it more complicated. King attributes this increased difficulty in the establishment of corporate governance to changes that the modern day brought in the corporation, especially the introduction of professional managers and the controlling shareholding changing from families to institutions.

According to the Penguin Reference Book (1985), corporate governance is concerned with "keeping the balance between economic and social goals and between individual and communal goals". Thus, corporate governance



attempts to address not only financial control, but also a number of other issues, such as social and environmental responsibility (King, 2002:92).

It is therefore reasonable to deduce that corporate governance was established to address the growing concerns of institutional shareholders with the way in which the companies they hold shares in are managed, and to address the transparency, accountability and responsibility of the company's board of directors. Corporate governance was subsequently expanded into a practice by which companies are managed and controlled. According to Smerdon (1998:21) this practice includes:

- The creation and ongoing monitoring of a system of checks and balances to ensure a balanced exercise of power within a company;
- The implementation of a system to ensure compliance by the company with its legal and regulatory obligations;
- The implementation of a process whereby risks to sustainability of the company's business, are identified and managed within agreed parameters; and
- The development of practices that make and keep the company accountable to the broader society in which it operates

While corporate governance is practically still in its infancy, a large amount of literature is available on the topic, albeit not all of this is at an advanced level of peer reviewed research publications. These include practical applications and guidelines for implementation into corporate organisations.

However, throughout the review of the evolution and development of corporate governance, it became clear that the principles have not been applied extensively in other areas of strategic and operational conduct. This observation further strengthens the argument that perhaps the time is opportune to investigate its application in other forms of management disciplines, such as project management.



In order to further prepare the adaptation of corporate governance to project management, the next paragraphs explore the current state of corporate governance in a more detailed and practical way.

3.2.1 The components of corporate governance guidelines

As mentioned, the single goal of a corporation is to maximise shareholder wealth. Originally, corporate governance provided guidelines for proper corporate conduct for the protection of stakeholders' interests and shareholder value. Further developments saw a more formal control approach through the specification of actions that the officers of a corporation and the board of directors of the corporation have to take to achieve these objectives.

In some countries, corporate governance has been taken to a level where the guidelines and controls are enacted by federal laws. One such example is the Sarbanes Oxley Act of 2002 (The United States of America, 2002), an act proclaimed by the Congress of the USA.

Whether corporate governance is enacted by law or only a set of best practice guidelines (as in the case of the King Report in South Africa) depends largely on the maturity of corporate governance in each specific country. Nevertheless, in both situations, corporate governance aims to regulate the same activities. The differentiating factor is the extent to which leverage is available to ensure conformance to the proposed guidelines.

Currently there is no evidence of a universal set of corporate governance 'guidelines', 'rules', or 'laws' applicable to all countries and their organisations. In fact, a number of corporate governance models exist. These can be divided into: the Anglo-Saxon model (Dunlop, 1998:7) which is a combination of what is adopted in the Americas and the United Kingdom; the German model that is found in a number of European and Scandinavian countries; and the Japanese model (Monks *et al.*, 1995:276). Although firmly established in most developed countries, each country is still very much in a stage of internal investigation to establish some form of ultimate practice.



Although it is not the purpose of this study to provide a critical review of the differences between corporate governance practices in various countries (for that reference is made to the extensive work by Mallin (2005), which provides a thorough analysis of corporate governance developments in various countries around the globe), the paragraphs below provide an overview of the difference in approach by two countries, namely the USA and the Republic of South Africa (RSA). The reasons for reviewing the two specific countries are:

- The USA is considered to be a well developed country, while the RSA is classified as a developing country. While most developed countries have well-established corporate governance policies, the developing countries still lag in the formulation of their policies. The RSA could be considered as 'more advanced' in formalising corporate governance guidelines in the developing world and therefore the country's corporate governance guidelines will be referred to extensively in the comparative discussion.
- A secondary reason for selecting one country each from the developed and developing world is that it is assumed that the different levels of development and sociological needs might influence the approach taken to formulate a 'common' corporate governance approach.
- Lastly, the significance of looking at both approaches stems from the fact that, in a globalised environment, the question of whose corporate governance guidelines must be applied and what the mix should be, could prove to be a distinguishing factor, especially when management structures are assembled.

In the large capital project environment it is quite common that the developed countries provide substantial funding, become partners / joint ventures, or provide direct investment in these undertakings. The questions of governance, in what format and level, could potentially have a positive or devastating impact.

3.2.1.1 Corporate governance in the USA

Given recent corporate scandals and fraudulent financial reporting in the USA, the Sarbanes Oxley Act of 2002 (the 'Act') concentrates mostly on financial disclosure and reporting activities. Without analysing the detail, the indexed content of the Act is given in Table 3.1 below. The purpose of the table is to illustrate the strictness of financial and auditing principles that dominates the intent of the Act. The format and contents of the Act are significant and a key input to the eventual development of a common and generalisable project governance model.

Table 3.1: Contents of Sarbanes Oxley Act of 2002

Title	Section	Description
I		PUBLIC COMPANY ACCOUNTING OVERSIGHT BOARD
	101	Establishment; administrative provisions
	102	Registration of the Board
	103	Auditing, quality control, and independence standards and rules
	104	Inspections of registered public accounting firms
	105	Investigations and disciplinary proceedings
	106	Foreign public accounting firms
	107	Commission oversight of the Board
	108	Accounting standards
	109	Funding
II		AUDITOR INDEPENDENCE
	201	Services outside the scope of practice of auditors
	202	Pre-approval requirements
	203	Audit partner rotation
	204	Auditor reports to audit committees
	205	Conforming amendments
	206	Conflicts of interest
	207	Study of mandatory rotation of registered public accounting firms
	208	Commission authority



	209	Considerations by appropriate State regulatory authorities
III		CORPORATE RESPONSIBILITY
	301	Public company audit committees
	302	Corporate responsibility for financial reports
	303	Improper influents on conduct of audits
	304	Forfeiture of certain bonuses and profits
	305	Officer and director bars and penalties
	306	Insider trades during pension fund blackout periods
	307	Rules of professional responsibility for attorneys
	308	Fair funds for investors
IV		ENHANCED FINANCIAL DISCLOSURES
	401	Disclosures in periodic reports
	402	Enhanced conflict of interest provisions
	403	Disclosures of transactions involving management and principal stockholders
	404	Management assessment of internal controls
	405	Exemption
	406	Code of ethics for senior financial officers
	407	Disclosure of audit committee financial expert
	408	Enhanced review of periodic disclosures by issuers
	409	Real time issuer disclosures
V		ANALYST CONFLICT OF INTEREST
	501	Treatment of securities analysts by registered securities associations and national securities exchanges
VI		COMMISSION RESOURCES AND AUTHORITY
	601	Authorisation of appropriations
	602	Appearance and practice before the Commission
	603	Federal court authority to impose penny stock bars
	604	Qualifications of associated persons of brokers and dealers
VII		STUDIES AND REPORTS
	701	GAO study and report regarding consolidation of public accounting firms
	702	Commission study and report regarding credit rating agencies
	703	Study and report on violators and violations



	704	Study of enforcement actions
	705	Study of investment banks
VIII		CORPORATE AND CRIMINAL FRAUD ACCOUNTABILITY
	801	Short title
	802	Criminal penalties for alternating documents
	803	Debts non-dischargeable if incurred in violation of securities fraud laws
	804	Statute of limitations for securities fraud
	805	Review of Federal Sentencing Guidelines for obstruction of justice and extensive criminal fraud
	806	Protection for employees of publicly traded companies who provide evidence of fraud
	807	Criminal penalties for defrauding shareholders of publicly traded companies
IX		WHITE-COLLAR CRIME PENALTY ENHANCEMENTS
	901	Short title
	902	Attempts and conspiracies to commit criminal fraud offences
	903	Criminal penalties for mail and wire fraud
	904	Criminal penalties for violations of the Employee Retirement Income Security Act of 1974
	905	Amendment to sentencing guidelines relating to certain white-collar offences
	906	Corporate responsibility for financial reports
X		CORPORATE TAX RETURNS
	1001	Sense of the Senate regarding the signing of corporate tax returns by chief executive officers
XI		CORPORATE FRAUD AND ACCOUNTABILITY
	1101	Short title
	1102	Tampering with a record or otherwise impeding an official proceeding
	1103	Temporary freeze authority for the Securities and Exchange Commission
	1104	Amendment to the Federal Sentencing Guidelines
	1105	Authority of the Commission to prohibit persons from serving as officers or directors
	1106	Increased criminal penalties under Securities Exchange Act of 1934
	1107	Retaliation against informants

The Act has brought, and will continue to bring about, significant change in corporate governance, accounting and, ultimately, the financial markets - both in the United States and internationally. The Act fundamentally changed how



audit committees, management and external auditors carry out their respective responsibilities and interact with each other. The Act builds on existing United States Securities and Exchange Commission (SEC) and US stock exchange (i.e. the NYSE, AMEX and Nasdaq) requirements by tightening restrictions, expanding disclosures and toughening penalties.

The most telling change may be that the Act represents a new era of public regulation in the capital markets sector. Unlike in South Africa, the United States Congress has concluded that public confidence can best be restored through greater government involvement. This involvement has led to specific requirements for affected parties with regard to corporate responsibilities, auditor regulation and independence, and financial reporting, as well as having enhanced (in some cases) new civil and criminal penalties for corporate fraud.

The primary aim of the Act is to protect investors by improving the accuracy and reliability of corporate financial and audit reporting and disclosures. However, corporate governance in the developing environment had a different onslaught, as explained in the next paragraph.

3.2.1.2 *Corporate governance in South Africa*

The initial King report (King, 1994), whilst also born out of a need to protect investors, embraced an inclusive approach that looked, not only at the financial and regulatory aspects of corporate governance, but advocated an integrated approach in the interests of a wide range of stakeholders. The report was released in 1994 and recognises that corporate governance initially had to do with accountability and transparency of a corporation's professional management team and board of directors in terms of financial conduct and reporting, but boldly hinted that governance models had to include the effect of the corporation's activities on its environment and on communities. According to the report "... the concept of directors' reports being directed solely to shareholders is changing into a report to all stakeholders. Society now expects greater accountability from companies in regard to their non-

financial affairs, for example in relation to their employees and the environment.” (King, 1994:4). The revised King Report, namely King II (2002), further developed the inclusiveness of the governance approach with specific reference to the *triple bottom-line*, which included the creation of economic, environmental and social value.

As opposed to the strong financial disclosure and auditing focus of the Act, the King II Report (King, 2002) has a more social orientation, as illustrated in the table below (Table 3.2). Again, the index of content of the King II Report is used to highlight the essence of the content.

By merely looking at the two indexes, there are clearly differences in the approach to corporate governance in the Act and King II. The differences emanate from the respective country’s history and corporate experiences during the preceding decade. In order to improve the understanding of the differences between the two approaches, a direct comparative review is given in the next section.

Table 3.2: Contents of the King II Report

Section	Chapter	Description
1		BOARD OF DIRECTORS
	1	Role and Function of the Board
	2	Role and Function of the Chairperson
	3	Role and Function of the Chief Executive Officer
	4	Role of the Executive and Non-Executive Officer
	5	Director Selection and Development
	6	Board and Director Appraisal
	7	Disqualification of Directors
	8	Board Committees
	9	The Business Judgement Rule
	10	Role and Function of the Company Secretary
2		RISK MANAGEMENT



	1	Introduction and Definition
	2	Responsibility for Risk Management
	3	Assimilating Risk to the Control Environment
	4	Application of Risk Management
3		INTERNAL AUDIT
	1	Status of Internal Audit
	2	Role and Function of Internal Audit
	3	Scope of Internal Audit
4		INTEGRATED STABILITY REPORTING
	1	Introduction and Scope of Review
	2	Stakeholder Relations
	3	Ethical Practices and Organisational Integrity
	4	Safety, Health and the Environment (SHE)
	5	Social and Transformation Issues (including Black Economic Empowerment)
	6	Human Capital
5		ACCOUNTING AND AUDITING
	1	Auditing
	2	Non-audit Services
	3	Legal Backing for, and the Monitoring of, Compliance with Accounting Standards
	4	Information Technology
	5	Accessibility of Financial Information
6		COMPLIANCE AND ENFORCEMENT
	1	Introduction
	2	Legal Mechanisms
	3	Enforcement of Existing Remedies
	4	Principles of Disclosure
	5	Role of the Media
	6	Encouraging Shareowner Activism
	7	The Role of Organised Business
	8	Enforcement in other Jurisdictions



3.2.1.3 *Key differences between Sarbanes Oxley Act and King II*

Throughout the 20th century, many countries experienced economic downturns, failures, corporate scandals and even corporate collapses. This necessitated governments developing and implementing corporate governance mechanisms, either as guidelines, codes or even as law. Mallin (2005) provides a comprehensive review of the different approaches taken by various countries in establishing governance principles that will address general and country specific circumstances.

What is evident from corporate governance developments is the systematic progression away from looking solely at concerns surrounding financial reporting and disclosures to items that impact the larger society and environment, the so-called 'triple-bottom line' (economic, social and environmental). It is also this very aspect that proves to be the distinguishing factor between the King II approach and the Act.

The following paragraphs provide a summary of the key differences between the Act and King II as described by the Institute of Directors (IOD, 2002). A comparison is also given in tabular format in Table 3.3 that compares specific items listed.

3.2.1.3.1 *Board of Directors and Audit Committee*

King II, as opposed to the Act, covers a broader scope, ranging from corporate governance to the responsibilities surrounding total corporate citizenship. The responsibility of corporate citizenship becomes the core function of the board in the King II code.

A key driver behind the Act was the restoration of investor confidence and therefore the focus on responsibilities lies more with the Audit Committee, while simultaneously relying on existing SEC rules and USA stock exchange requirements and proposals to address board responsibility, composition and liability.

a) *Composition*

King II provides fairly clear guidelines and stipulations regarding the composition of the board. The code even states that it would be preferable to have more non-executive executive members on the board, thereby ensuring a broader societal view. Surprisingly enough, preference is also given to a chairperson being independent and non-executive. Appointment to the board should be transparent, with appropriate training and orientation given in preparation for roles and responsibilities.

The Act provides hardly any requirements or stipulations regarding the composition of the board.

b) *Responsibility*

- *General Responsibility*

King II pertinently states that the board is the focal point of accountability and shall be held liable for the affairs of the organisation. It provides clear guidelines regarding board responsibilities around strategy, monitoring and evaluation, selection and use of technology, performance measures, risk management and succession planning. The board should also establish a formal charter that outlines their commitment and which is published in the annual report.

- *Whistle Blowing Responsibility*

Both King II and the Act incorporate requirements for confidential reporting processes ('whistle blowing'). The Act stipulates the introduction of this practice more clearly under the Audit Committee's oversight responsibility.



c) *Audit Committee to the Board of Directors*

Both King II and the Act stipulate that the board of directors should appoint an Audit Committee for effective internal control systems.

Whereas King II requires that the Audit Committee consist of a majority of independent non-executive directors, the Act requires independence of all members.

King II also requires a level of financial literacy for all the Audit Committee members, whereas the Act stipulates the appointment of at least one financial expert.

Both King II and the Act identifies the Audit Committee's main areas of responsibilities, which include the appointment of external auditors, reviewing the accuracy of financial statements and alignment with the internal audit function, as well overseeing the appropriate regulation regarding the remuneration of external auditors.

3.2.1.3.2 *Financial Reporting and Internal Control*

Probably the most distinguishing area of difference between King II and the Act can be found in the guidelines and prescriptions on financial reporting and controls. Coupled with requirements for auditing, the Act provides for much more stringent directives in terms of financial controls and the regular reporting thereof in specific formats.

a) *Financial Reporting Responsibility*

The King II approach to financial reporting aims to establish an environment within which the board takes overall accountability for the financial affairs of the organisation. This includes assurance that the Board reports the affairs of the organisation accurately to all stakeholders. Apart from accurate representation, specific responsibilities are prescribed in terms of:



- External auditing
- Internal controls and risk management
- Applicable accounting standards
- Adherence to the Code of Corporate Practice and Conduct, as established and agreed upon by the board.

Supporting transparency and communication to stakeholders, King II also recommends regular assessments and reviews regarding the operational activities of the company, as well as indications of future direction and strategy of the company.

The Act imposes a much more stringent approach to financial management and holds the Chief Executive and Chief Financial Officer fully accountable for the financial affairs of the company. The Act requires these officers to certify that a company's quarterly (for domestic US companies) and annual SEC filing fully comply with the Exchange Act and that the information contained in the reports fairly presents, in all material respects, the company's financial condition and results of operations.

Failure to comply with this certification carries direct criminal penalties of up to 20 years imprisonment and fines of up to US\$ 5 million.

b) Financial Disclosures

Supporting the stringent requirements surrounding financial control, the Act is quite prescriptive regarding:

- The disclosure of non-GAAP activities
- The reporting of off-balance sheet transactions, arrangements, obligations (including contingent obligations) and other relationships of the issuer with unconsolidated entities or other persons that may have a material current or future effect on specified elements of the issuer's financial statements.



c) *Internal Controls*

Instead of detailing the requirements necessary for internal control, King II adopted an over-arching approach under the banner of risk management. Defining risk management in the context of the corporate environment, it represents the process of identification and evaluation of actual and potential risks as they pertain to a company, followed by a procedure for termination, transfer, acceptance (tolerance) or mitigation of each risk. The reference to, and use of risk management principles is formalised in the SAAS (South African Auditing Standards) 400 “Risk Assessments and Internal Control” (SAICA, 2002), issued by the South African Institute of Chartered Accountants.

In comparison, the Act again allocates ultimate responsibility for internal controls to the level of top management. Monitoring their compliance to the directives, the CEO and CFO have to certify quarterly and annually that the financial results represent a true reflection of the state of the company.

3.2.1.3.3 *Accounting and Auditing*

King II and the Act differ in their respective approaches to accounting and auditing requirements. Whereas King II handles auditing requirements more on a secondary level, the Act provides specific legislation regarding auditing practices and reporting.

a) *Independence*

Although King II strongly promotes the highest level of business conduct and ethics for external auditors, it does not prevent or prohibit both consulting and auditing services from the same company. However, it does require the Audit Committee to provide principles for recommending the use of the external auditors for non-audit services, such as management consultancy and corporate finance services.



The Act's independence requirements are more expansive and specific than those in King II. The Act further expands existing SEC and American Institute of Certified Public Accountants (the 'AICPA') independence rules by prohibiting the external auditor from:

- i) functioning in the role of management
- ii) auditing his or her own work
- iii) serving in an advocacy role for the audit client, and
- iv) limit the number of years an audit firm is eligible to audit the same company's results.

b) Interaction with Companies

Apart from specifying the formulation and adherence to an internal audit charter, King II adopts fairly open, but mandatory guidelines to inter-company communication. The Act, on the other hand, specifically legislates the manner of communication between companies, focusing on misrepresentation and manipulative and fraudulent statements regarding the state of the company. The Act also specifies the nature of the communication between external auditors and audit committees.

The Act does not contain specific provisions affecting the internal audit function in a company. However, a company's external auditor is precluded from functioning in the capacity of internal audit function, or even in a partially outsourced capacity. The internal and external audit function should also establish formal communication lines.

c) New Attestation Report

Unlike King II, the Act requires the external auditor to issue an attestation report on management's internal control report. Apart from providing a thorough review over the internal control practices of the organisation, the attestation report should also report on material weaknesses in internal control and any material non-compliance.

d) Disclosure

Both King II and the Act require full disclosures on the amounts paid to the external auditor for non-audit services, with a detailed description in the notes to the annual financial statements of the nature thereof, together with the amounts paid for each of the services described. Additionally, the Act requires disclosure of fees paid to a company's principal external auditor for the two most recent years, segregated by audit, non-audit, tax and other services, as well as a description of the nature of the services.

3.2.1.3.4 Organisational Ethics and Remuneration

Both King II and the Act seek to influence individual ethical behaviour through requirements surrounding codes of ethics and compensation. Whereas the Act elaborates extensively on financial control and auditing, King II (and, in general, governance approaches from the developing world) focuses additional attention on safety, health, environment, social and socio-economic responsibilities.

a) Code of Ethics

Both King II and the Act, stipulate that an organisation should demonstrate its commitment to ethical behaviour by codifying its standards in a code of ethics.

b) Compensation

The establishment of a Remuneration Committee, consisting almost entirely of non-executive directors, is strongly proposed. Membership of this committee should be transparent and disclosed in the annual report. Companies should also provide full disclosure of director remuneration on an individual basis in their annual report, providing details of earnings, share options, restraint payments and all other benefits. King II further supports performance-related elements of remuneration.



Legislation in the Act goes further, imposing direct accountability on the CEO and CFO. Firstly, the Act prohibits the arrangement or renewal of credit in the form of a personal loan to or for any director or executive officer or their immediate family. Secondly, the Act requires that if, as a result of misconduct, a company is required to make an accounting restatement due to material non-compliance with the financial reporting requirements, the company's CEO and the CFO must reimburse the company for calculated amounts from their personal remuneration.

c) *Integrated Sustainability*

Again, as opposed to the strong financial, audit and transparency approach contained in the Act, King II emphasises the importance and responsibility of companies to the environments they are operating in. This includes the social and natural components of society. The argument is that unless companies look after their suppliers, customers, employees and the environment in which they operate, shareholder value is likely to suffer any way. This means that a well-run board of directors will have to deal with these interests to ensure long-term corporate health and therefore shareholder value.

King II adopted an approach from a single bottom line to a triple bottom line. The triple bottom line embraces economic, environmental (including health and safety) and social aspects of a company's activities.

- *Economic aspects*

King II warns that it must be constantly borne in mind that entrepreneurship and enterprise are some of the most important factors that drive businesses. Entrepreneurs that take risks and initiatives drive economies. If the shareholder cannot earn an acceptable return on his investment, he will not invest, and there will be no growth in commercial or industrial activity. Without profitability, there would be no enduring interest in a corporation. If there were no investors, none of the other stakeholders would have an enduring interest in the corporation either.



Clearly, the economic side of corporate governance can therefore not be completely neglected, nor should one allow the other interests of corporate governance to overshadow the financial performance of the corporation, as this would negate the necessity for any other stakeholders' interest, or the protection thereof through corporate governance. A successful economy is dependant on successful companies that operate in that economy. The corporate governance system should therefore avoid control that can stifle an enterprise. A participative corporate governance system and companies with integrity is needed.

Sheridan and Kendall (1992:27-51) support this view by stressing the importance of the fact that businesses have to be successful to survive and grow. Governance, like any other aspect of business, has to be considered in the context of its contribution to business success. While the board's function is to act as an agent of the owners (shareholders), and as trustees of their interests, this suggested participative corporate governance promotes the interest of a range of other stakeholders, outside of the primary business drive, namely wealth maximisation. This 'softer' side of corporate governance is summarised as follows (Sheridan *et al.*, 1992:27):

- Fulfil the long-term strategic goal of the owners (wealth maximisation),
- Consider and care for the interests of employees, past, present and future, which we take to comprise the whole life-cycle including planning future needs, recruitment, training, working environment, severance and retirement procedures, through to looking after pensioners.
- Take account of the needs of the environment and the local community, both in terms of the physical effects of the company's operations on the surroundings and the economic and cultural interaction with the local population.
- Work to maintain excellent relations with both customers and suppliers in terms of matters such as quality of service provided, considerate ordering and account settlement procedures.
- Maintain proper compliance with all the applicable legal and regulatory requirements under which the company is carrying out its activities.



- *Safety, Health and Environmental (SHE) considerations*

Shareholders should not only feel obliged and able to cross swords with management who they believe are acting in a way detrimental to the profitable conduct of the business, but should be as concerned about environmental issues, learning from other companies' mistakes and strategies, and providing training to communities in which the company operates. King II highlights that the environmental aspect of corporate governance includes the effect on the environment of the product or service produced by the company. An article in an Asian Development Bank Review publication (2001) shows that the separation of economic growth and environmental concerns has come at a high cost to the environment. It is estimated that by 2020 half of Asia's population is likely to live in the cities, further straining an already inadequate infrastructure for water supply, housing, and sanitation. The poor are often most directly dependant upon forests, fisheries and other natural resources threatened by depletion and degradation. Some of the reasons cited for this phenomenon are excessive reliance on centralised, top-down approaches and inadequate participation of civil societies in environmental management. What does this have to do with corporate governance? The Asian Development Bank article illustrates that a biased approach to the primary objective of a corporation, namely wealth maximisation, can have a detrimental effect on the environment in which it operates, with a knock-on effect on the sustainability of the corporation. Corporate governance should therefore also adopt a balanced approach, taking into account the economic performance and environmental constraints within which the corporation operates to ensure sustainability of the company's business. King II (2002:123) supports this view by providing practical recommendations for safety, health and environment (SHE). These include:

- Business processes and SHE management principles should be integrated.
- Environmental corporate governance must reflect current South African law by the application of the "Best Practicable Environmental Option" standard (defined as that option that has the most benefit, or causes the least damage, to the environment at a cost acceptable to society)



Corporate governance should reflect a committed effort to reduce workplace accidents, fatalities and occupational health and safety related incidents. There should also be regular measurement against an ongoing improvement objective, which should be disclosed to stakeholders.

c) *Social*

Employees, communities, consumer and public interest groups are raising concerns about the performance and impact of corporations on employment practices, pollution, genetic engineering, product safety, essential public services and many other matters. The most serious concerns tend to be over corporate practices in poorer countries, where governance and financial constraints have made it more difficult for legal, environmental, health and safety standards to match those in developed countries.

Corporate governance's higher aim is to provide an international framework on corporate accountability and liability. This would secure the accountability of corporations to citizens and communities in today's globalised economy by establishing:

- Rights for citizens and communities affected by corporate activities;
- Duties on corporations with respect to social and environmental matters; and
- Rules to ensure high standards of behaviour wherever corporations operate.

The approach goes beyond voluntary corporate responsibility initiatives to establish corporate accountability to stakeholder citizens as a legal right. It seeks to help close the democratic deficit created by corporate globalisation by underlying the principles of rights, democracy and equity demanded by communities protesting against corporate globalisation.

South African corporations have a duty to support transformation issues such as black economic empowerment (BEE) and to involve local communities in their activities to support job creation. One of the task teams established to review corporate governance for King II focused on *Integrated Sustainability*



Reporting. They analysed a wide range of complex areas of reporting of a non-financial nature, including ethics and societal and transformation issues, including BEE. While some of these issues have been addressed in recent legislation (Employment Equity Act, Act No. 55 of 1998) as referred to in King II (2002:9), this currently only affects larger companies.

McGregor (2000:10) relates that Corporate Governance touches us all: “We buy gas from a filling station owned by a global company. The food we buy is imported from distant countries and continents ... corporate governance impacts on the quality of lives not only of shareholders, but employees and those communities impacted by key corporate decisions.” She continues to paint a picture in which she highlights the social or human side of governance through a definition of corporate governance:

“Governance is the process whereby people in power make decisions that create, destroy or maintain social systems, structures and processes.”

She regards the corporate governor (i.e. board of directors) as a significant part of the fabric of our society, agents for change and guardians of existing ways of working. This is often forgotten in the business of making money and responding to a competitive market.

A few corporations make a virtue of internalising costs, believing this voluntary 'corporate social responsibility' enhances their brand and provides a competitive edge. Such a strategy works for corporations that have become relatively accountable to their customers, but it works almost as well for some as a marketing hype veneer that disguises a grim reality.

Governments have supported voluntary corporate social responsibility and some even have ministers with duties to promote it. However, such voluntary action is not common to all companies. Unless all corporations are made equally accountable for their environmental and social impact there remains little incentive for a general improvement in behaviour. What is more, those corporations that want to become more socially responsible are being held

back by competitors who can undercut them by continuing to externalise costs and by demonstrating no responsibility. Substituting regulation with voluntary initiatives, has therefore failed to deliver sufficient progress in practice to date.

King II reacts to this dilemma by providing the following recommendations for incorporating social aspects into governance:

- Companies should value diversity of approach, values and the contribution that women and black people bring to the table and should develop mechanisms to positively reinforce the richness of diversity.
- Social investment prioritisation and spending, as well as procurement practices, should take cognisance of the need for BEE and, in particular, the need to empower women.
- Companies should disclose the nature of policies and practices in place to promote equal opportunities for the previously disadvantaged, in terms of them realising their full potential and reaching executive levels in the company.
- The company's policy on investment of corporate funds should be disclosed. In particular, pension funds and institutional investors, both in the private and public sectors, should indicate in a Statement of Investment Principles and Policies or equivalent document the extent to which they take into account socially responsible investment criteria in their investment decisions.

In an extension to the above, King II also provides specific recommendations regarding the development of human capital according to the following guidelines:

- Companies should disclose the criteria by which they propose to measure human capital development and report accordingly on their performance in terms of such criteria.
- Business practice should reflect requirements of human capital development in areas such as the number of staff, with a particular focus on demographics (race, gender and people with disabilities), age, corporate training initiatives, employee development and financial investment committed.



The above paragraphs outline the emphasis of King II on corporate responsibilities beyond financial management. This emphasis is typical of a developing environment and, since large projects often have developed and developing elements and stakeholders, will be of key importance when identifying the key components of a project governance model.

Table 3.3 below summarises the above descriptions and two approaches to corporate governance.

King II and the Act have introduced new and varied corporate governance requirements. Some focus on increased responsibility, whereas others focus on increased accountability.

What is of importance though is that while different institutional investors have their individual agendas domestically and abroad, certain key corporate issues are found to be of common concern – and that it is in the court of public opinion where a company’s corporate governance practices, and the business results they produce, will ultimately be judged. With this view, King II summarises the spirit of corporate governance practise as follows:

- Discipline – corporate discipline is a commitment by a company’s senior management to adhere to behaviour that is universally recognised and accepted to be correct and proper.
- Transparency – the ease with which an outsider is able to make meaningful analysis of a company’s actions, economic fundamentals and the non-financial aspects pertinent to that business.
- Independence – the extent to which mechanisms have been put in place to minimise or avoid potential conflicts of interest that may exist, such as dominance by a strong chief executive or large shareowner.
- Accountability – individuals or groups in a company, who make decisions and take action on specific issues, need to be accountable for their decisions and actions.

- Responsibility – this pertains to behaviour that allows for corrective action and for penalising mismanagement. The board must act responsively to and with responsibility to all the stakeholders.
- Fairness – the systems that exist in a company must be balanced in taking into account all those that have an interest in the company and its future.
- Social responsibility – a well-managed company should be aware of and respond to social issues, placing a high priority on ethical standards.

Table 3.3: Summarised comparison between King II and the Act

Board of Directors and Audit Committee		
	King II	Sarbanes Oxley
Composition	<ul style="list-style-type: none">• Sufficient size• Comprised of executive and non-executive members• Preferably a majority of non-executives, of whom a sufficient number should be independent• Chairperson should be independent	<ul style="list-style-type: none">• Not separately addressed
Responsibility	<ul style="list-style-type: none">• Board has ultimate accountability for the affairs of the company• Board should adopt a formal charter describing its responsibility, which should be disclosed annually	<ul style="list-style-type: none">• Not separately addressed• Whistle blowing responsibility is assigned to the Audit Committee
Audit Committee to Board of Directors	<ul style="list-style-type: none">• Majority must be independent• Majority of Audit Committee members must be financially literate• Various defined responsibilities	<ul style="list-style-type: none">• All members must be independent• Must include at least one financial expert• Various defined responsibilities
Financial Reporting and Internal Control		
	King II	Sarbanes Oxley
Financial Reporting Responsibility	<ul style="list-style-type: none">• Board must report certain items annually regarding the preparation of financial statements and the use of effective internal controls	<ul style="list-style-type: none">• Quarterly certification by the CEO and CFO regarding compliance with the Exchange Act
Financial Disclosures	<ul style="list-style-type: none">• No specific requirements	<ul style="list-style-type: none">• Prohibition of certain non-GAAP information• Required disclosures in

		<p>quarterly and annual reports of all material off-balance sheet transactions and other defined relationships</p> <ul style="list-style-type: none"> All material correcting adjustments to the financial statements must be made
Internal Controls	<ul style="list-style-type: none"> Internal control considered part of the risk management process Board must implement and maintain generally recognized risk management and internal control models Disclosures must be made about the risk management process 	<ul style="list-style-type: none"> Requirement for quarterly certification by the CEO and CFO regarding their responsibility over disclosure controls and procedures An annual internal control report prepared by management to be included in annual filings with the SEC
Accounting and Auditing		
	King II	Sarbanes Oxley
Independence	<ul style="list-style-type: none"> External auditors should observe the highest level of business and professional ethics and should be objective and aware of their accountability to shareholders 	<ul style="list-style-type: none"> Prohibits defined activities by the external auditor Stricter partner rotation rules, limits on employment of former external auditors, and prohibition of fees earned by the audit partner for certain non-audit services
Interaction with Companies	<ul style="list-style-type: none"> Requires an effective internal audit function with a formal internal audit charter 	<ul style="list-style-type: none"> Requires mandatory communication between the external auditor and the audit committee
New Attestation Report	<ul style="list-style-type: none"> Not separately addressed 	<ul style="list-style-type: none"> External auditor must issue an attestation report on management's internal control report
Disclosure	<ul style="list-style-type: none"> Requires separate disclosure of the amounts paid to the external auditor for non-audit services together with a detailed description of the nature of services 	<ul style="list-style-type: none"> Requires disclosure of fees paid to a company's principal external auditor for the two most recent years with a description of the nature of services
Organisational Ethics and Remuneration		
	King II	Sarbanes Oxley
Code of Ethics	<ul style="list-style-type: none"> Standards of ethical behaviour should be codified in a code of ethics Adherence to this code should 	<ul style="list-style-type: none"> Must disclose whether a code of ethics applicable to senior management has been adopted

	be disclosed	<ul style="list-style-type: none">• Code should be made publicly available and any changes to the code or waivers from the code must be disclosed
Compensation	<ul style="list-style-type: none">• Performance-related elements of compensation should represent a substantial portion of the total compensation package• Vesting periods, re-pricing of options and other pertinent information relating to granting of options should be approved by shareholders	<ul style="list-style-type: none">• Makes it unlawful for a company to extend personal loans to directors or executive officers• Requires reimbursement to the company by the CFO and CEO of certain compensation received when financial statements are restated
Integrated Sustainability	<ul style="list-style-type: none">• Included in business processes• Economic• SHE	<ul style="list-style-type: none">• Not separately addressed
Social	<ul style="list-style-type: none">• Requires detail regarding inclusion of all local labour and stakeholders	<ul style="list-style-type: none">• Not separately addressed

Source: IOD, 2002, PriceWaterhouseCoopers

Even though philosophical, the above could serve as a moral test for corporate practices.

Since the 1990s, the formalisation of corporate governance has created much debate, exploration and research in terms of perfect management practice. With the current models available, academics and practitioners continue to explore shortcomings and best practices to be incorporated in new revisions of the acts and guidelines. The following paragraphs explore some of the latest thinking in the field of corporate governance and provide a brief glance into the future in terms of what may be expected in model updates. By considering the latest developments, this research attempts to develop a model that will be relevant to its time and provide an opportunity to incorporate the most modern thinking available.



3.3 Latest developments in corporate governance

It could be argued that corporate governance is a globally accepted concept and that debate around the topic focuses more on content and application rather than on validity. Gillibrand (2004:5) states that corporate governance guidelines produced by the Organisation for Economic Co-operation and Development (OECD) increase rather than decrease pressure on countries to develop and implement corporate governance guidelines and standards. They strongly encourage the application of good corporate governance as a precondition for international loans to governments for financial sector and other structural reforms as well as equity investment in, and bank loans to, larger companies. Although the pressure is currently on listed companies 'to comply or explain' their corporate governance principles, this requirement is likely to be extended not only to all listed companies, but also to other privately and publicly owned companies and organisations that want to use 'other people's money' (including tax payers') as equity, loans or bonds.

In support of the approach taken in this research, in terms of which a model from each of the developed and developing worlds were studied, the Commonwealth Secretariat convened a group to examine the scope of corporate governance for development and to identify areas where the OEDC principles should be revised to better accommodate the concerns of developing countries as well as emerging markets. In their study, the Commonwealth group identified various areas to be addressed in a developing environment and a summary of this is provided below (Gillibrand, 2004:10-11):

- *Geographical expansion to developing countries:*
An immediate need was identified to expand the concept to especially pan-African and pan-Caribbean forums. However, the adoption of the principles has been slow since true evidence is still required that positively links good corporate governance with poverty elevation. Thus, the changes to initially stipulated principles in a developed environment



had to incorporate local developmental needs and clearly demonstrate not only financial accountability but also other parameters such as:

- Investment for growth and for employment creation
 - Competitiveness for the global market
 - Corporate environmental and social responsibility
 - Increase in public sector agency efficiency.
-
- *Sectorial as well as geographical expansion of corporate governance:*

Up until 2001, the conventional approach to corporate governance regarded this as irrelevant for state-owned enterprises, family owned corporations, public service boards, cooperatives, small and medium enterprises and even the banking sector. According to Gillibrand (2004:11) one of the main reasons was theoretical in that the concepts of corporate governance were based on the principle-agent relationship, which was considered to apply to joint stock companies. Even though this limiting and constraining approach resulted in initial confinement of the concept of corporate governance, extension into other sectors and organisational formats, from private to public, has accelerated since 2001. Again, the realisation of the wider development and application of the principles of corporate governance supports this investigation into its application to the field of project management.

 - *Convergence and segmentation of different aspects of corporate governance:*

Linked to the previous paragraph's plea for sectorial extension of corporate governance is the convergence of different core aspects of governance, which have been running in parallel for the past decade, but now seem to be flowing together into a comprehensive approach to corporate governance. In the past, there was a tendency for segregation between corporate governance, corporate social responsibility, corporate environmental responsibility, corporate citizenship and director professionalism. Again, because of the initial principal-agent relationship approach, focus was mostly on protecting shareholder value through procedural and organisation aspects, bureaucratic structures, systems,



audits, codes and ‘ticking boxes’. However, the emerging modern ‘inclusive’ approach refers to the responsibility of corporate citizenship and highlights the other end of the spectrum. The proponents of corporate social and environmental responsibility consistently talk in terms of stakeholders, while some of the stricter exponents of corporate governance deny that there was any validity whatsoever in the concepts of ‘stakeholder’, and argued that it served to weaken the essential principle of corporate accountability to shareholders.

The shareholder versus stakeholder debate is active and in a state of flux. Letza, Sun and Kirkbride (2004) provide valuable insight into this debate and its status in mid-2004. Although the general observation is that there is a visible recognition by most organisations to include stakeholders into their governance models (Anglo-American style), there is also notable evidence of countries moving from an inclusive stakeholder model to a more exclusive shareholder model, especially in Germany and Japan (European-Asian style). Even though both shareholder and stakeholder perspectives claim superiority of their models, reality has shown a dynamic shift, with both models becoming increasingly mutually attractive in various aspects.

The above paragraphs highlight the fairly advanced state of corporate governance debate and development. The foundational principles are well established on the basis of responsible and accountable actions by those in power. It is also believed that the current status supports the further development and application of governance concepts in other forms of managerial structures, such as project teams and their management. The following section explains some of the inherent principles and evident approaches to be taken into consideration when developing a project governance model.



3.4 Approaches to the development of a project governance framework

Although it is not the purpose of this research to investigate the validity of each argument, it is believed that a review regarding current thinking and postulations on corporate governance is an important aspect in developing a project governance model. Flexibility towards the development process is required, especially in a project environment where the static conceptualisation of shareholding and stakeholding is less compatible with the fluidity and diversity of practical reality. As explained by Letza *et al.* (2004:257), the current dichotomised and static theoretical approach used in corporate governance research, which presupposes two extreme and opposing ideal models (static versus process driven), cannot fully explain the complexity and heterogeneity of corporate reality. The further development and research in corporate governance, as well as subsequent development of complimentary models for other types of organisations (i.e. temporary project organisation), calls for an inventive and flexible approach. According to Letza *et al.* (2004:258), such an approach should comprise the following:

- *Process rather than static approach:*
This approach explains and allows for the temporary, transient and emergent patterns of corporate governance on a historical and contextual interface in any society. Corporate governance is completely changeable and transformable and there is no permanent or universal principle that covers all societies, cultures and business situations. It acknowledges that corporate governance models around the globe have developed from their own unique cultural, historical and social circumstances. It also acknowledges that each model will continue to evolve. For example actors in the Anglo-American and German-Japanese governance environments will learn from each other, each taking aspects from the other's model to improve their position in global competitiveness and transparency.



- *A balanced approach:*

This approach assumes that no extreme model can exist and function effectively, such as a pure shareholding or pure stakeholding model can exist. An organisation is never a purely private or purely public entity. It does not consist purely of physical assets, but also of human beings, shareholders and stakeholders.
- *A relational approach:*

In order to learn, business relationships must consider corporate relationships and social interactions. Thus, shareholder interest is not independent of stakeholder actions and *vice versa*. An organisation is not independent of its constituents. Separating shareholder and stakeholder interests comes down to over simplification of a social reality.
- *A pluralist approach:*

Critical to this approach is the recognition that corporate governance is not only conditioned to the economic logic of economic rationality and efficiency, but also shaped and influenced by politics, ideologies, philosophies, legal systems, social conventions, cultures, modes of thought and methodologies. A purely economic and financial analysis of corporate governance is too narrow (Turnbull, 1997:180).
- *A dynamic and flexible approach:*

Having to continually weigh and adjust the methods of governing in practice, an ideal model cannot be fixed as a 'once-and-forever' solution. According to Hood and Jones (1996), it is a principle of design and management of institutions through explicitly juggling rival viewpoints in a constant process of dynamic tension with no pre-set equilibrium.
- *An enlightening approach:*

Challenge and transcend habitual, inertial, static and stagnant ways of thinking about corporate governance. As mentioned by Morgan (1997), people are easily trapped by favoured ways of thinking that serve



specific sets of interests and consequently our conventional modes of thought may in turn bind and control our views. We need to think outside of the current polarised framework of models. We need to truly understand what corporate reality is, how and why we have constructed it, both collectively in history and in different contexts, and what trends and patterns could most likely emerge in the uncertain future.

In line with the above approaches, some attempts have been made to introduce governance principles into the project management field.

3.5 Introducing governance into the project management field

Supporting the general notion that governance principles should be extended to other fields of management, and especially to project management, some work has been published on the topic in recent years. The work, mostly from study groups and individual authors, covers topics such as the *governance of project management*, from the APM in the United Kingdom (APM, 2004), *programme governance* (Reiss, Anthony, Chapman, Leigh, Pyne and Rayner, 2006) and *project governance* (Renz, 2007).

Although the document produced by the APM (2004) focuses more on the practice of project management as a management discipline, rather than on describing governance as a strategic function, it does make comparisons between the principles contained in the document and corporate governance guidelines. However, the main focus remains with the responsibilities of the acting project manager.

Reis *et al.* (2006) provide a more strategic approach to the application of governance principles to projects. Although only seen as a small subset of programme management, some important documents are listed and deemed important for programme governance. These documents include strategy documents, the programme brief, the business case, highlight and exception reports as well as the risk register. Reis *et al.* (2006) also make an attempt to illustrate the alignment between corporate and programme governance by

introducing a comparative table. A reproduction of the comparative table is given below in Table 3.4 (Programme governance versus corporate governance). In compiling the table, only generic corporate governance clauses were referred to.

Focusing on non-profit organisations, Renz (2007) describes the function of project governance as bridging the gap between corporate governance at the strategic level and project management at the operational level. Instead of addressing the conditions required for a conducive environment within which projects could be managed Renz (2007), proposes a project governance model that aligns project activities with strategic objectives.

Table 3.4: Programme governance versus corporate governance

Issue	Corporate Governance	Programme Governance
Structure of the board	The role of chairman and chief executive should be divided.	The programme board should have a balanced structure, including representation from the key divisions / stakeholders being affected.
Management of the board	There should be: a. regular board meetings b. clear division of responsibility between members, with no single director being allowed unfettered discretion to make decisions c. a formal written schedule of matters for approval by the board.	There should be: a. regularly programmed board meetings b. clear delineation of responsibilities of the programme board c. regular agenda items for review, including projects in the programme.
Board competence	Directors should initially receive instructions regarding their responsibilities following their appointment and additional instructions and from time to time.	Programme directors and other members of the programme board who have no programme or project experience should be trained before taking up their role.
Board membership	Boards should establish nomination committees.	The make-up of the programme board should provide a balanced view of key stakeholders.
Remuneration	A remuneration committee is required and its members are required to have no business or other relationship with the company that could affect the independence of their judgement.	Where the programme director or programme manager has a personal interest, or their company has an interest in one or more of the projects, then this must be declared. The programme director or programme manager should withdraw from any discussion on the project.
Financial controls	The board has a duty to present an assessment of the company's financial position.	The programme board should ensure the production of up-to-date financial and management accounts.



Other internal controls	<p>Directors of listed companies must:</p> <ol style="list-style-type: none"> a. conduct a review at least once a year and report to shareholders on the effectiveness of the company's system of internal control b. where there is no formal internal control system, annually review the situation and report to the shareholders why the board does not consider such a system necessary and outline other procedures in place to provide information to the board. 	<p>The programme management arrangements should include internal controls for:</p> <ol style="list-style-type: none"> a. financial approval and management b. benefit management c. risk management d. planning and tracking e. change control f. documentation management g. reporting h. programme assurance, including checkpoints and audits.
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Source: Reis *et al.* (2006)

The model proposed includes such main components such as:

- Systems management
- Mission management
- Integrity management
- Extended stakeholder management
- Risk management
- Audit management

Although some components, such as extended stakeholder management and audit management, are strongly linked to corporate governance principles, the item's components relate to system breakdown and overall project scope definition. Renz (2007) also proposes a definition of project governance, namely:

Project governance is a process-orientated system by which projects are strategically directed, integratively managed and holistically controlled, in an entrepreneurial and ethically reflected way, appropriate to the singular, time-wise limited, interdisciplinary and complex context of projects.

The project governance model proposed is largely based on the author's rational arguments and not on empirical research.



3.6 Summary

The question of governance is found to be inherent to the evolution of the corporation. Through the centuries, the church, state, individuals and companies investigated and experimented in various ways to build cooperation and collaboration among parties engaging in trade and business. The relationships varied in level of formality, from personal agreements to fixed and formal contracts governed by the power of the church and / or legislation. The modern, capitalist society brought about behaviour that tends to be self-centred, profiteering and even greedy, resulting in various forms of misconduct on a grand scale. With the enormous pressure from shareholders on cooperatives to be profitable and grow on an annual basis, as well as major incentives for management if they achieve their targets, the environment became fertile for new forms of mismanagement and misrepresentation of the reality. This tendency has led to great financial losses for shareholders and investors as well social and environmental misery during the past three decades.

To address this negative trend, various governments embarked on a program to improve the control of corporate activities. This resulted in the formalisation of corporate governance in various formats according to each country's needs. In the developed world, corporate governance models were focused predominantly on financial accountability, transparency and reporting. The most well known example is that of the Sarbanes-Oxley Act in the USA, where strong legislation forces companies to be extremely transparent, especially in terms of board composition and financial and accounting conduct. The main objective of the Act is to protect shareholders and investors in joint stock companies.

As opposed to the developed world, the developing world provides guidelines and not necessarily legislation that focuses on social and environmental issues as well. The developing world's approach is more inclusive and moves beyond shareholders to stakeholder involvement. The different approaches become clear when comparing the two models, one from the developed world



(in the Sarbanes-Oxley Act) and the other from the developing world (in the form of the King II Report in South Africa).

The two schools of thought, that of shareholder versus stakeholder interest, is quite evident in corporate governance literature, with a clear observation that the two seemingly opposing approaches are converging in some developed countries, especially in Europe and Asia, which are becoming more stakeholder orientated and developing countries realising the importance of protecting shareholder wealth.

Although fairly mature, the further improvement of corporate governance models requires different approaches for further enhancement. These approaches might well be a mixture of processes, balanced, relational, pluralist, dynamic and enlightening.

The historical development of corporate governance, establishment and formalisation of existing models from the highest, most influential echelons of society and the vibrant, challenging debate on what or who should be included and excluded from governance practices, provides a solid yet flexible base from which to develop the concept further into other forms of managerial arrangements such as project management. It is believed that the time is more than ever opportune to investigate, develop and formalise, as far as possible, a project governance model that is globally applicable and incorporates the cross-country, cross-culture, stakeholder and shareholder approaches and unique nature of the temporary project organisation.

The following chapter discusses the research approach and design considered in the establishment of such a project governance framework.



Chapter 4: Research Design

The literature review revealed that the principles of project performance, corporate governance, LCPs and institutional developments are fairly well documented. Many research studies into project performance have been done, while research in the field of corporate governance is currently more related theory building and qualitative analysis. The current state of corporate governance allows for some structure and a basic framework from which the different regional models are derived. The models are mostly presented as guidelines and laws influencing different countries' specific economic and social emphasis. These models can serve as a basis from which to develop a project governance framework.

Few studies exist with respect to the management of LCPs, while the fundamental understanding of the functioning, dynamics and characteristics of major projects still need thorough investigation, research and active debate. However, with respect to this study, it is believed that the contextual frameworks exist in terms of corporate governance models, entrepreneurial, rational and governance systems that will lead to the development of a questionnaire that will stimulate discussion among seasoned project sponsors, project managers, academics and other major stakeholders with regard to the establishment of a project governance framework. However, it was clear from the outset that the research in itself would be an exploratory process with the review and confirmation of the research approach to be reviewed, discussed and adjusted as the results unfold.

4.1 Developing the research strategy

The uncertainty and immaturity of the concept of project governance became evident through the literature review and various informal discussions with academics and project practitioners. Although *project governance* is a popular term in modern project management language, it was not clear whether the

users of the term commonly refer to project control, steering committee functions, project management in its entirety or to liability clauses in contracts.

Given these fundamental differences in approach and a low level of mutual understanding of the concept of project governance, the research method and approach lends itself ideally to an exploratory study as well as the accumulation and categorisation of expert opinions. This resulted in the investigation of the Delphi technique as the research approach and strategy to define project governance. The results of the second round of the Delphi survey would determine what route to take towards a project governance framework (Figure 4.1 - Research Strategy). Options included a third round of the Delphi survey, the structuring and development of a concept model for testing against a large sample of respondents (quantitative) or various case studies.

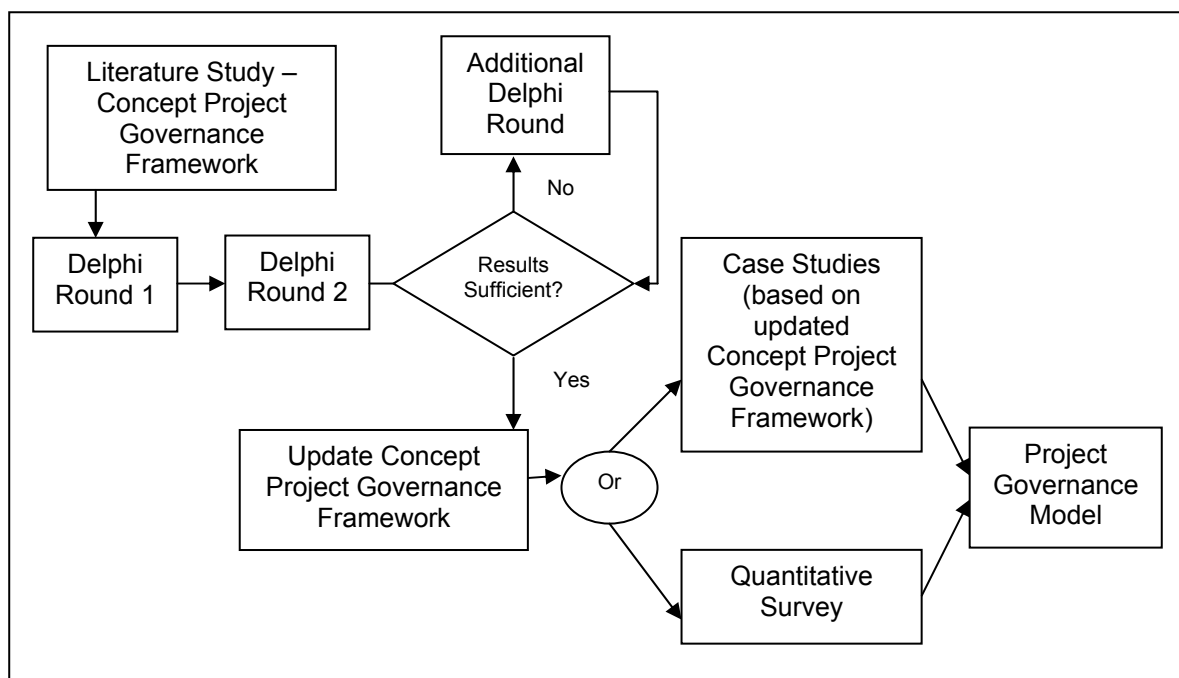


Figure 4.1: Research strategy

A critical decision had to be made after the Delphi studies. The decision centred around the verification part of the study via case studies or quantitative surveys. The results from the Delphi study would determine the possible option. If it was found that the input from experts during the Delphi



were sufficient to compile a fairly robust Concept Project Governance Framework, the testing of the framework would proceed towards case studies. However, if it seemed that the refinement of the Concept Project Governance Framework could be improved via a survey with input from general project workers and academia, then this quantitative route would be followed.

The Delphi technique is a qualitative research method and therefore criticised by many a seasonal researcher as not being empirically verifiable. In order to better understand the Delphi technique as research method, and its applicability to this research, a fairly extensive literature review was done on the technique. The objectives of the literature review were to:

- Obtain a better understanding of the Delphi technique as a research method,
- Obtain insight into the advantages and criticism of the Delphi technique, and
- Map the research process for this study.

The following paragraphs provide an overview of the literature findings and explain the rationale behind the research approach.

4.2 The Delphi technique

4.2.1 Background

The aim of this research is to develop a common, accepted project governance framework that could be used as a management guideline and decision-making framework for the development, implementation and eventual operation of LCPs. The framework should guide decision-making and provide an environment within which the project manager can manage all the activities towards the overall improvement of project performance.

From the outset it was clear that the development of a project governance framework is barely in the definition stage and would require extensive consultation and discussion in order to progress towards model development.



Some form of decision-making technique, which facilitated the involvement and communication of multiple, knowledgeable participants had to be mobilised in order to define and develop the eventual structure of the project governance framework. The technique also had to allow for the participation of geographically dispersed respondents and clustering of expert opinions. These constraints led to the consideration of using the Delphi technique, especially for the initial part of the research questioning.

The Delphi technique is part of the family of group decision-making techniques that includes the nominal group technique (NGT) and interacting group method (IGM). The Delphi technique differs in various ways from NGT and IGM, but principally in fact that Delphi is individual based, anonymous and independent. The element of group interaction is eliminated and feedback to questionnaires can be in written format (Loo, 2002:763). The most significant differences among the three main group decision-making methods are explained by Delbecq, Van de Ven and Gustafson (1975:32) and tabulated below in Table 4.1.

According to Loo (2002), organisations should consider the Delphi technique when they investigate decision-making strategies that will set the future direction for organisations. As it is believed that the formulation of a project governance framework belongs firmly in this category of guiding the future direction of organisations, the Delphi technique seems appropriate as a research technique to build on the initial framework that has been developed by studying the available literature and logical reasoning.

Olaf Helmer and Norman Dalkey, of the Rand Corporation, created the Delphi technique in the 1950s (Buckley, 1995:16; Helmer-Hirshberg, 1967). The technique attempts to make effective use of informed intuitive judgment in long-range forecasting. In its simplest form, the Delphi method solicits the opinions of experts through a series of carefully designed questionnaires interspersed with information and opinion feedback.

Table 4.1: Comparison of qualitative differences among IGM, NGT and Delphi

Dimension	IGM	NGT	Delphi
<i>Overall methodology</i>	Unstructured meeting. High variability between decision-making groups.	Structured meeting. Low variability between decision-making groups.	Structured series of questionnaires and feedback reports. Low variability between decision panels.
<i>Role orientation of groups</i>	Social-emotional focus.	Balanced social-emotional and task-instrumental.	Task-instrumental.
<i>Relative quantity of ideas</i>	Low, focused 'rut' effect	High, independent thinking.	High, isolated thinking.
<i>Relative quality and specificity of ideas</i>	Low quality. Generalisations.	High quality. High specificity.	High quality. High specificity.
<i>Normative behaviour</i>	Inherent conformity pressures.	Tolerance for non-conformity.	Freedom not to conform.
<i>Search behaviour</i>	Reactive. Short problem focus. Task-avoidance tendency. New social knowledge.	Proactive. Extended problem focus. High task-centeredness. New social and task knowledge.	Proactive. Controlled problem focus. High task-centeredness. New task knowledge.
<i>Equality of participation</i>	Member dominance.	Member equality,	Respondent equality in pooling of independent judgements.
<i>Methods of conflict resolution</i>	Person-centred. Smoothing over and withdrawal.	Problem-centred. Confrontation and problem solving.	Problem-centred. Majority rule of pooled independent judgements.
<i>Closure to decision process</i>	Lack of closure. Low felt accomplishment.	High closure. High felt accomplishment.	High closure. Medium felt accomplishment.
<i>Task motivation</i>	Medium.	High.	Medium.

Source: Delbecq *et al.* (1975)

According to Greek mythology, the oracle at Delphi was consulted to forecast the future so that correct and timely decisions could be made before embarking upon a major course of action, such as waging war. The approach taken by the research team was that subject-matter experts could be solicited

for their opinions or expectations about the likelihood of future events or scenarios.

Various definitions of the Delphi technique can be found in literature. According to Mullen (2004), Linstone and Turoff define the Delphi technique as follows:

Delphi may be characterised as a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem.

Sackman (1975), in a critique of the Delphi, summarises the technique as follows:

Conventional Delphi generally refers to the iterative polling of experts or non-experts, who remain anonymous and do not directly communicate with each other, accompanied by statistical feedback for each item in successive rounds, with or without verbal commentary.

Loo (2002) describes the Delphi as:

A method that structures and facilitates group communication that focuses upon a complex problem so that, over a series of iterations, group consensus can be achieved about some future direction.

According to Delbecq *et al.* (1975), the Delphi technique is a *survey technique for decision-making among isolated anonymous respondents.*

Delbecq *et al.* (1975) further elaborated on the functioning of the technique, describing the characteristics as:

- The isolated generation of ideas, in writing, that produces a high quantity of ideas.
- The process of writing responses to the questions forces respondents to think through the complexity of the problem, and to submit specific, high-quality ideas.
- Search behaviour is proactive since respondents cannot react to the ideas of others.



- The anonymity and isolation of respondents provides freedom from conformity pressure.
- Simple pooling of independent ideas and judgements facilitates equality of participants.
- The Delphi technique tends to conclude with a moderate perceived sense of closure and accomplishment.
- The technique is valuable for obtaining judgments from experts who are geographically isolated.

Since this study might be the initiation of further study and aims to attract a wide spectrum of inputs from various geographically dispersed individuals, the Delphi technique may be well suited as a research approach and method.

4.2.2 Criticism of the Delphi

The Delphi as a research technique has had its fair amount of criticism, support and debate on epistemology (Mullen, 2003). The major criticism is Delphi's alleged failure to follow accepted scientific procedures, in particular the lack of psychometric validity (Sackman, 1975). However, those defending Delphi argue that it deals with areas that do not lend themselves to traditional scientific approaches. Helmer (1977:18-19) argued that the futures analysis, one of the major applications of Delphi, "is inevitably conducted in a domain of what might be called 'soft data' and 'soft laws'". He further argued that standard operations research techniques should be augmented by judgemental information and that the Delphi technique cannot be legitimately attacked for using mere opinions and for violating the rules of random sampling in the 'polling of experts'. Such criticisms, he argued, "rest on a gross misunderstanding of what Delphi is ... it should be pointed out that a Delphi inquiry is not an opinion poll". As the various definitions illustrate, in no instance is reaching a majority opinion the ultimate goal in a Delphi: it is rather the reaching of agreement. According to a quote from the Cary Salmon Report in Buckley (1995) "Delphi is a tool for discovering agreement and identifying differences rather than forcing consensus". Buckley (1995) further states: "In principle, agreement alone is not a sufficient condition for arguing



that something is plausible. However, as with the majority of research tools, the method of use and application has a huge impact on the eventual success. It is believed that where no agreement develops the Delphi still helps to clarify the issue”, with Linstone and Turoff (2002) adding that one of the common reasons for failure in a Delphi is ignoring and not exploring disagreements.

Ultimately, Coates (1975) responds to the primary criticism against the Delphi method not being scientific by stating: “If one believes that the Delphi technique is of value not in the search for public knowledge, but in the search for public wisdom; not in the search for individual data but in the search for deliberative judgment, one can only conclude that Sackman missed the point.”

Thus, group communication forms the centre of the Delphi technique and provides a platform to facilitate input from, and discussions among, knowledgeable, experienced and expert individuals.

4.2.3 Epistemological approach towards the Delphi design

The differences between the various group techniques, the definitions of the Delphi method as compiled by theorists and academics, and cognisance of the various criticisms forms the epistemological basis for defining the approach towards a Delphi design. As explained by Scheele (2002), the concreteness of the context of the Delphi design is paramount in reaching the overall objective of the study. The basic premises of the research design towards the formulation of a project governance framework for LCPs is embedded in some form of general agreement and consensus regarding the core ingredients and components of the eventual framework. Given the current status of, or lack-of, a generally agreed project governance framework, the search for consensus and a point of departure is therefore justified. In consideration of the critique voiced principally by Sackman (1975), the use of the Delphi method is justified and builds on the reasoning of Dalkey and Helmer (1963:458): “Its [Delphi’s] objective is to obtain the most reliable



consensus of opinion of a group of experts”. As referred to in Mullen (2003), further support for the reaching of consensus through the Delphi method is given by Lindeman (1975:435), who states that, “The Delphi technique ... involves the use of a series of questionnaires designed to produce group consensus”. More recently, Philips (2000:192) suggested: “The Delphi technique is a method for obtaining consensus of informed opinion by soliciting the views of experts in the specific field being studied”.

The use of experts has a profound impact on the Delphi design. Potential speculation of “what question lies behind a question”, or “what prompted a specific response” could have a profound impact on the eventual outcome. According to Critcher and Galdstone (1998:432), the Delphi design should “... allow for a potential outcome which may include the degree of consensus or dissensus, specifying the range of different positions, and revealing the rationales which lie behind the judgments”.

It can be concluded that whether or not a consensus should even be sought lies in the purpose of the Delphi. With positive questions, the aim is to find the correct answer, whether it is an outlier or not, rather than a unanimously agreed wrong answer. Hence the importance of exploring disagreements as the outlier might be correct. However, when the aim is to obtain normative views, as in this research study, seeking consensus might well be appropriate.

4.2.4 Main components of the Delphi technique

According to Loo (2002), the Delphi technique consists of five major characteristics:

- The sample consists of a panel of carefully selected experts representing a broad spectrum of opinion on the topic or issue being examined.
- Participants are usually anonymous.
- The ‘moderator’ (i.e. researcher) constructs a series of structured questionnaires and feedback reports for the panel over the course of the Delphi.



- It is an iterative process often involving three to four iterations or 'rounds' of questionnaires and feedback reports.
- There is an output, typically in form of a research report containing the Delphi results, the forecasts, policy and program options (with their strengths and weaknesses), recommendations to senior management and, possibly, an action plan for developing and implementing the policies and programs.

Given the exploratory nature of this research, it is further believed that the Delphi technique is well suited to obtaining credible inputs from experts in industry and academia to serve as key input towards the development of a project governance framework. The following paragraphs provide more detail regarding the practical design and execution of the Delphi study for this dissertation.

4.3 Designing, constructing and executing the Delphi study

Given the rationale behind the Delphi technique and the key characteristics explained, the design, construction and execution of the Delphi study followed a sequential process - as with all other research methods.

Loo (2002) refers to four key planning and execution activities, namely:

- problem definition
- panel selection
- determining the panel size, and
- conducting the Delphi rounds.

In support of Loo's approach, Delbecq *et al.* (1975) applies a basic Delphi methodology that includes distinct stages, such as Delphi question development, respondent selection, sample size, first questionnaire, first questionnaire analysis and follow-up questionnaires. This methodology forms the basis of this research study and is explained in the following paragraphs

4.3.1 Stage 1 – Develop the Delphi question

The formulation of the Delphi question is a key to the overall process. It is paramount that respondents understand the broad context within which the questionnaire is designed, especially with this dissertation where the concept of project governance has different meanings for different people and the difference between project control and project governance needs to be clarified upfront. For the study to be successful, some key questions need to be addressed. The basis of constructing the questions is based on the guidelines given in Table 4.2 below, with corresponding wording and phrasing given for this study.

Table 4.2: Delphi question formulation

<i>Key Delphi question?</i>	Phrasing for this study
<i>Why are you interested in this study?</i>	This study was initiated because of the belief that many LCP failures are not due to the poor application of project management tools and techniques, but rather the poor definition, or lack of a proper definition and applied project governance framework.
<i>What do you need to know that you don't know now?</i>	Currently it is not clear what a project governance framework should be based on or should contain. At the end of this study it should be clear what the definition of project governance should be and, secondly, what the components of a project governance framework should be.
<i>How will the results from the Delphi influence decision-making once the study has been completed?</i>	The result of the Delphi study should be a project governance framework for LCPs that will direct and assist decision-making throughout the life-cycle of the project.

4.3.2 Stage 2 – Selection of respondents

When using group-decision techniques, the selection of respondents, or 'expert panel', can create a huge debate.



Sackman (1975:695-704) criticises the use of experts by pertinently asking “What is an ‘expert’ in the target field?” and, “How are such experts operationally defined?” He argues: “It is almost impossible to find current psychometric or social science literature on ‘experts’”.

In contrast to the purist approach by Sackman, some alternative schools of thought are also evident in the Delphi research environment. Pill (1971) suggested that an ‘expert’ should be defined as anyone with a relevant input. Mullen (2003) refers to some studies by Ishikawa, Amagasa, Shiga, Tomizawa, Tatsuta and Mieno (1993), who ask ‘experts’ to self-rate their expertise in the area concerned on a scale of 0 to 10. Usually the rate should be an indication of their knowledge of each area as being derived from ‘awareness’, ‘reading’ or ‘working’ or evaluating their familiarity with each item as fair, good or excellent. However, the efficacy of such self-rating is disputable and could only add another dimension to Delphi critique.

What is very clear is the fact that randomly selected representative samples are inappropriate when expert opinions are required. Goodman (1987:730) supports this approach by stating that the Delphi “tends not to advocate a random sample of panellists ... instead the use of experts or at least of informed advocates is recommended”. Helmer (1977:18-19), also referred to by Mullen (2003), argued that “it should be pointed out that a Delphi inquiry is not an opinion poll, relying on drawing a random sample from ‘the population of experts’; rather, once a set of experts has been selected (regardless of how), it provides a communication device for them that uses the conductor of the exercise as a filter in order to preserve anonymity of responses”. Eventually Linstone (2002) pertinently states that the most significant danger in selecting the ‘expert panel’ lies in the path of ‘least resistance’ through the selection of a group of cosy friends and / or like-minded individuals.

With this study, the research topic is demarcated as LCPs but includes a fair portion of heterogeneity through the inclusion of various industry sectors, for example mining, infrastructure, petrochemical, oil and gas, building and academia.



From the literature review and the directives of Delbecq *et al.* (1975), it is clear that the participants of the Delphi study should be knowledgeable in the field of study, have pertinent information to share, are motivated to include the Delphi task in their schedule of competing tasks and feel that the aggregation of judgements of a respondent panel will include information which they too value and to which they would not otherwise have access.

In the light of the above directives, the respondents chosen for the study were selected based on:

- Personal, direct knowledge and acquaintance,
- Indirect knowledge through specific reference,
- Discussion and familiarisation at international conferences, and
- Prominent practitioners whose projects appear in the general media.

A complete contact list of all potential participants was obtained. Before the first questionnaire was distributed, each potential participant was contacted and given an explanation of what the study comprised.

4.3.3 Stage 3 – Selection of sample size

The very nature of the Delphi technique calls for a qualitative, rather than a quantitative approach. The use of experts for input already indicates that the number of participants should be expected to be much lower than normal quantitative surveys. The question is: How many experts should participate?

From the available literature very little indication was found regarding the minimum number of participants required to take part in the Delphi study. Linstone (1978:296) finds that “a suitable minimum panel size is seven” and clearly states that the researcher runs the risk of accuracy deteriorating rapidly as numbers increase.

Linstone’s observation is supported by Cavalli-Sforza and Ortolano (1984:325), who state that a “typical Delphi panel has about 8 to 12



members”, while Phillips (2000:193) believes that the optimum is between seven and twelve members.

Determining the size of the respondent panel has always been a contentious issue. However, considering the arguments that the Delphi should not be viewed as an opinion poll, as well as the broad view expressed by authors in this field, it seems that panel sizes ranging from 7 to 20 might be appropriate, at least for the first round of a questionnaire.

With a Delphi study, the selection of an initial respondent panel size is variable. From the literature review it was concluded that the size varies between 7 and 20. For this study it was decided to identify 30 individuals on the following basis:

- A fair and practical split between academics and practitioners. The two categories may provide input for various perspectives and balance the theoretical and practical considerations.
- The respondents in both categories should have extensive experience in LCPs. For practitioners, the guideline criterion is 20 years’ experience in LCPs, whilst the profiling of academics will require information on number of articles published and books authored and co-authored.

The intention was that the second round would be distributed to those respondents who completed the first round of questionnaires.

4.3.4 Stage 4 – First questionnaire

Due to the mere fact that the Delphi technique is designed to obtain input regarding a topic, the questions are kept to a minimum and are open-ended (Scholl, König, Meyer and Heisig, 2004). The work by Scholl *et al.* is very similar to the approach taken in this study in that 45 experts responded to six very open-ended questions. A second round was conducted, with 25 experts responding. The numbers are too low to derive representative statistics, which is also not the objective of the study.



Based on the approach of Scholl *et al.* (2004), the first questionnaire of this research asks individuals to respond to broad questions. Respondents were expected to respond on-line, with the answers captured in a categorised table.

The questionnaire was designed to:

- Allow adequate time for thinking and reflection (2 weeks),
- Avoid undue focusing on a particular idea,
- Avoid competition, status pressure and conformity issues,
- Avoidance of choosing between definitions, concepts and ideas prematurely.

The first questionnaire formed the basis of the research and further questionnaire developments were to evolve from the feedback.

4.3.5 Stage 5 – Analysis of first questionnaire

Analysing the feedback from respondents poses a challenge. In many cases the feedback is elaborate, necessitating careful selection of an analysis technique and the obvious requirement to test the consolidated results for the second round. According to Page and Meyer (2005), the most suitable technique to be used for this type of qualitative research proved to be *informal content analysis*. The technique consists of scanning the content for recurring and repeated themes / concepts / words and constructing a summarised / consolidated description of the feedback. An example of the use of the technique is illustrated by Manickas and Shea (1997) during which customer complaints were recorded and analysed at a large hotel in New York.

According to Glaser and Strauss (1967), potentially important information may be overlooked when questions are directed to very specific factors. It is therefore advised to rather include more information on observations initially and verify with a second round of questioning during which the focus is more on confirmation, rejection or refinement.



For this dissertation the summarised / consolidated feedback was returned to the initial respondents for comment, confirmation or criticism.

The results from the first round of questionnaires formed the basis for the second round of questionnaires.

4.3.6 Stage 6 – Second questionnaire

The second questionnaire incorporated the feedback from the first questionnaire and was compiled in a format for a second round of feedback and response from the respondents who completed the first round of questionnaires. The feedback and confirmation of the second round formed the basis for the rest of the research design, whether a draft model for case study research or a questionnaire for quantitative studies.

4.4 Summary

This research aims to develop a project governance framework for LCPs through a thorough review of the origin and development of corporate governance models, guidelines and laws, as well as the continuing search for structuring LCPs. This chapter addresses the research structure and method, with specific emphasis on the Delphi method.

Due the exploratory nature of this research, the Delphi method seemed to be the most appropriate to build on the framework that had been developed by means of a literature survey. This method would allow the free flow of ideas and thinking towards the formation of a project governance framework, with sufficient room for providing specific and general input to the thinking and contextualisation process.

The following chapter provides a detailed discussion on the actual Delphi research review of the results obtained.



Chapter 5: Research Results and Concept Framework

From the literature review and informal discussions with project practitioners and academia, it became clear that no common understanding exists regarding the definition or meaning of project governance. The main objective of the Delphi study was thus to obtain consensus regarding the term 'project governance', its definition, its relationship with corporate governance and project control as well as the challenges facing the development of a project governance framework.

The following paragraphs explain the Delphi process and the results achieved.

5.1 Delphi – Round 1

The first round of the Delphi study followed the process of formulating key questions, testing the response to questions with an advisory panel, identifying and contacting the potential participants, gathering and analysing the answers and preparing the second round of questions.

5.1.1 Data accumulation

The first round of the Delphi questionnaire was sent to 32 individuals selected from a panel of practitioners and prominent academia from around the globe. The panel represented countries such as Australia, Northern Africa, Southern Africa, USA, UK, South America and other European countries. Each member of the panel received a personalised email with the questionnaire attached (Appendix A). In most cases the members were contacted telephonically, urging them to participate in the study.

Eventually 15 (47%) responses were received with the feedback given in Appendix B. The summary profiles of the respondents are given below in Table 5.1 (Respondent Profile).

Table 5.1: Respondent Profile

Participant age bracket	21-30	31-40	41-50	51+
No. of participants		1	3	11
Highest Academic Qualification				
	B-degree	M-degree	PhD	
No of participants	8	4	3	
Experience				
Total	372 years			
Average / participant	24.8 years			
Number of international publications	30			
Number of books authored	12			
Capital value of projects managed by respondents	US\$ 43,950,000,000			
Industries				
- Mining	4			
- Petrochemical	4			
- Infrastructure & Transport	4			
- Telecommunications	1			
- Academia	2			
Capacity				
Consultant	4			
Client	11			
Country Responses	Sent out	Received	% Response	
South Africa	14	9	64%	
United States of America	6	2	33%	
Australia	2	0	0%	
United Kingdom	6	3	50%	
Brazil	1	0	0%	
Sweden	1	0	0%	
Denmark	1	0	0%	
Nigeria	1	1	100%	
Practitioner vs. Academia Responses	Sent out	Received	% Response	
Academia	8	2	25%	
Practitioners	24	13	54%	
Total	32	15	47%	

5.1.2 Results analysis

Analysing the feedback from respondents posed a challenge: in many cases the feedback was elaborate, which necessitated the careful selection of an analysis technique and the obvious requirement of testing the consolidated results through a second round. *Key word search* was initially considered appropriate to calculate the number of repetitions of specific words, but it was soon realised that this would not justify the effort since different words were used to explain the same concept. The only option was to review the inputs,



construct a consolidated response and send it back for review, comment and / or approval.

In order to arrive at the consolidated response, a different technique had to be used that would allow for the wide spectrum of feedback. According to Page and Meyer (2005), the most suitable technique to be used for this type of qualitative research is *informal content analysis*. The technique consists of scanning the content for recurring and repeated themes / concepts / words and constructing a summarised / consolidated description of the feedback. In order to verify the summarised / consolidated feedback, the results were returned to the initial respondents for comment, confirmation or criticism.

The feedback on each question in the Delphi questionnaire indicated that all the participants had specific views and that the principles under discussion were topical and current. From the practitioners' feedback it was quite apparent that the questions asked did, in many cases, address some sensitivities, especially with respect to the liability and accountability definition.

A discussion and summary of the responses to each question is provided below, with key words and phrases highlighted. Details of each respondent's feedback are given in Appendix B.

Question 1: How would you define / describe the concept project governance?

The first question was open ended and aimed at providing participants with the opportunity to express their views so as to determine their understanding of the concept of project governance. The result confirmed the original proposition that no agreed upon definition for project governance existed. The answers given borrowed heavily from general governance and corporate governance principles, although recognition was given to the fact that a project's main reason for existence is to bring about changes in the form of business results or other benefits. Surprisingly, there was little mention of personal accountability at this stage.

Table 5.2. Key words per respondent for question 1

Respondent	Key words / Phrases
1	Project performance, risk
2	Rules, compliance, risk
3	Client requirements
4	Laws, principles, ethics, best practices
5	Delivering a business case
6	Internal controls, integrate with corporate governance, deliver against commitments
7	Execution, international requirements
8	Rules, decision-making, appointment of authorities
9	Relationship between stakeholders and executive, protocols, risk, audit, business case, ethics, policies, procedures
10	Rules, policies, procedures, business case as defined by the investor.
11	Auditing, monitor, recording
12	Ethics
13	Structures and processes, link business objectives / strategies with project
14	Framework, part of investment and benefits, include 3rd parties, subset of corporate governance
15	Processes, decisions, authorise

The key words and phrases were used to derive a summary answer to be issued for further comments and/or confirmation.

Summary answer 1:

Project Governance is a set of management systems, rules, protocols, relationships and structures that provide the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.

Question 2: Do current project management frameworks and practices fail to address project governance? Please explain.

This question prompted the respondents to air their views on the availability and suitability of literature on project governance. Given the response to question 1, as expected the feedback on question 2 confirmed the lack of frameworks and practices. Expected responses were classified as:

- positive: i.e. there are ample tools, literature, frameworks, etc., available, or
- neutral: i.e. respondents reserve comments or refrain from giving an opinion, or lastly
- negative: i.e. in the view of the respondent there is very little, if any, support available to apply project governance.

Table 5.3. Key words per respondent for question 2

Respondent	Key words / Phrases
1	Yes, little about risk, not commonly understood
2	Limited to money
3	Yes, insufficient systems
4	Maybe, level of integrity
5	Yes, project - not business focused
6	No - failure in understanding and application
7	Yes, lack understanding of international requirements
8	Yes - focus too much on contractual risk allocation
9	Yes - available but not integrated
10	No – frameworks available but not adhered to
11	Yes - experience, integration, require different levels
12	Yes - conflict of interest
13	PM frameworks to be used, lack of discipline in application
14	Yes - no integration between business and project
15	Yes - current practices focus on implementation

The key words and phrases were used to derive a summary answer to be issued for further comments and/or confirmation.

Summary answer 2:

Overwhelmingly YES (current frameworks and practices do fail to address project governance).

Although some guidelines exist on the Governance of Project Management, concerns were raised regarding (1) the definition and management of risk, (2) non-alignment and lack of integration with business / strategic parameters (3) authority of project leaders, (4) practical application of governance concepts in projects, as well as (5) discipline to refine and apply project governance principles.

Question 3: What are the similarities between corporate governance and project governance?

With the word 'governance' as the common denominator, this question attempted to establish which aspects of corporate and project governance are considered to be equally applicable.

Table 5.4. Key words per respondent for question 3

Respondent	Key words / Phrases
1	PG subset of CG, proactive, overlapping
2	Similar, difference in level of reporting
3	Project governance should refer to corporate governance
4	Same rules should apply
5	Project governance is a subset of corporate governance
6	Same
7	Same w.r.t. management and reporting
8	
9	Same
10	Same, differ only in time
11	Follow corporate governance developments
12	Same in ethical standards

13	Compliance to rules and regulations, financial governance
14	Subset – Project governance to detail for project management what corporate governance details for organisations! – (Good summary!!!) ?
15	Similar

The key words and phrases were used to derive a summary answer to be issued for further comments and/or confirmation.

Summary answer 3:

General consensus was that for project governance the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the Board, project governance should do the same for the project Steering Committee.

Question 4: What are the differences between corporate governance and project governance?

Whereas the previous question (Question 3) explored potential similarities between corporate and project governance, this question attempted to extract the key differences between the two concepts, especially those differences that could distinguish project governance as a stand-alone concept.

Table 5.5. Key words per respondent for question 4

Respondent	Key words / Phrases
1	Not same level of disclosure
2	Detail, legal
3	Project governance should refer to corporate governance

4	Difference in objectives / profit approach
5	Different timeframes
6	Timeframes - requires different speeds i.t.o. decision making. Integrate project governance with corporate governance
7	Project governance brings corporate governance to the project
8	Timeframe
9	Timeframe
10	Timeframe
11	Project governance micro, corporate governance macro level
12	Different sets of stakeholder interest due to timeframes
13	Project governance operational level, corporate governance strategic
14	Corporate governance for listed companies, project governance more at project level
15	Corporate governance is strategic, project governance focus on implementation

The key words and phrases were used to derive a summary answer to be issued for further comments and/or confirmation.

Summary answer 4:

Corporate governance is very clear on the level and detail of financial and legal disclosures, while for project governance the level and type of disclosure is not at all clear. The difference in timeframes requires an alternative approach towards the process and speed of decision-making.

Question 5: What are the differences between project control and project governance?

From the literature review and discussions with project practitioners and academics, it became clear that various interpretations exist with respect to the use of the term 'project governance'. While many believed project governance has a strategic element attached to it, others viewed the concept as akin to project monitoring and control mechanisms, thus very much

operational. This question attempted to obtain a clear distinction, if any, between what is believed to be 'project governance' and 'project control'.

Another important aspect of this question was the fact that it also addressed the observation made in Chapter 1, Table 1.3, that project control was the common factor from various research outputs as a main contributor to project failure. Thus, when testing the eventual framework, the impact of good or poor project control on the level of success of the studied projects should be considered.

Table 5.6. Key words per respondent for question 5

Respondent	Key words / Phrases
1	PC is a subset of PG
2	PG is proactive, set the scene
3	Project control is a subset of project governance
4	Control involves process, project governance involves overall project management
5	Project governance focus on business delivery
6	Project control is a subset of project governance. Project governance sets the environment for project control
7	Project control - day-to-day, Project governance is more strategic
8	
9	Project governance operates at a more strategic level
10	Project control is a subset of project governance
11	Project control is at project management level. Project governance at macro level
12	Project governance is validating
13	Project control is a subset of project governance
14	Project governance more strategic than project control
15	Project authorities

The key words and phrases were used to derive a summary answer to be issued for further comments and/or confirmation.

Summary answer 5:

Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.

Question 6: To what extent should a project governance framework for large capital projects be project specific, company specific, country specific or generic?

Acknowledging that projects are unique, this question explored whether any form of generalisation should be allowed for in the development of a project governance framework, especially for large capital projects.

Table 5.7. Key words per respondent for question 6

Respondent	Key words / Phrases
1	Generic base with room for specifics
2	Generic base with room for specifics
3	Generic base with room for specifics
4	Generic base with room for specifics
5	Generic
6	Generic
7	Generic base with room for specifics
8	Generic base with room for specifics. Accommodate different levels of decision-making
9	Generic base with room for specifics
10	Generic base with room for specifics
11	Generic base with room for specifics
12	Generic
13	Generic and adaptable
14	Generic to be adapted
15	

The key words and phrases were used to derive a summary answer to be issued for further comments and/or confirmation.

Summary answer 6:

A project governance framework should be largely generic, with room to incorporate project specific and unique requirements.

Question 7: Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance framework for large capital projects involving multiple countries and companies?

A fairly open question, aimed at prompting participants to provide personal views, based on experience and insight, to what should be considered when constructing a project governance framework. The specific items will be used as key guiding instruments during framework development.

Table 5.8. Key words per respondent for question 7

Respondent	Key words / Phrases
1	Definition of outcomes and risks, financiers input will be key
2	
3	Understanding by senior management. Requires competence
4	Global view with financier inputs to be considered
5	Align project governance with corporate governance
6	Financier input
7	Obtain common principles, generic for overall application
8	Apply to countries with no / weak CG
9	Difficulty in simplicity, danger in 'too many' rules.
10	Overcoming resistance from stakeholders
11	Difficulty in simplicity and practicality
12	Implementation challenge, standardise
13	Remote application. Virtual work
14	
15	Focus on authority and communication

The key words and phrases were used to derive a summary answer to be issued for further comments and/or confirmation.

Summary answer 7:

Challenges include: (1) Accommodating financier's requirements and risks, (2) application in countries with weak corporate governance, (3) application in countries where senior / influential individuals "do not want better control" for selfish reasons, (4) complexity of globalisation and virtual work, (5) making project governance simple and practical to apply, as well as (6) overcoming stakeholder resistance to "another" form of statutory requirement.

Question 8: How should role player liability towards eventual project performance be incorporated in a global project governance framework?

Corporate, and even personal liability, is clearly defined in corporate governance. With the large capital value involved and the strategic importance of many LCPs, this question prompted respondents to assess whether the same levels of accountability and corresponding liability should be addressed in project governance.

Table 5.9. Key words per respondent for question 8

Respondent	Key words / Phrases
1	Essential
2	
3	Competence and knowledge regarding projects
4	Difficult concept. No comment
5	Must be clear on accountability
6	Liability not directly part of governance
7	Not clear, dependant on stakeholders
8	
9	Beware of adversity

10	
11	
12	Part of quality system
13	Be clear on liabilities in contracts
14	Be very clear
15	Same liability as board of directors

The key words and phrases were used to derive a summary answer to be issued for further comments and/or confirmation.

Summary answer 8:

This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with the board of directors in corporate governance), while the other school of thought argues any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.

Question 9: Please provide any other comments that you might have regarding the development and implementation of a project governance framework.

As with most Delphi studies, the last question of the first round allowed for open-endedness so that the respondent has the opportunity to air views not specifically addressed in the previous questions.

Table 5.4. Key words per respondent for question 9

Respondent	Key words / Phrases
1	PG not a substitute for self-governance
2	
3	Project governance part of methodology
4	Simplicity, practical
5	

6	
7	Use generic and customise to country / project
8	
9	
10	Practical
11	Framework for decision-making
12	
13	Be part of business process, not stand-alone. Self- governance
14	
15	

The key words and phrases were used to derive a summary answer to be issued for further comments and/or confirmation.

Summary answer 9:

The project governance framework should be (1) generic with the possibility to incorporate project specific requirements, (2) very practical to use, (3) a framework for decision-making and (4) contain an element that promotes self-governance. Project governance should reduce runaway project spending, just as good corporate governance reduces uncontrolled losses.

Responses to the first round of Delphi were very positive and the quality of input can only be commended. Apart from direct responses to the various questions, some additional side notes confirmed the belief that the topic under discussion is most relevant and necessary. No respondent queried the questions asked or provided alternative suggestions on how the topic should be approached.

After the first round, it became clear that the vast majority of respondents were at the same level of reasoning. Those questions aimed at seeking definition and direction towards the establishment of project governance (i.e. Questions 1, 3, 4 and 5) as an acceptable and mutually understood concept, achieved their objective and the responses were formulated such that each



summary answer could be drafted clearly enough for clarity testing and adjustment during the second round. Exploratory questions (i.e. Questions 2, 6, 7, 8 and 9) provided guidance towards the shaping of the eventual framework structure in the sense that the majority of respondents believed that alignment with acceptable corporate governance practices will be essential for project governance success. It was also clear that current literature and theory do not assist or support either practitioner or academic in the quest for any form of governance in projects.

With summary answers compiled, the second round of Delphi was sent to all the first round respondents.

5.2 Delphi - Round 2

The second round of the Delphi study aimed at providing the first round respondents with the opportunity to review the initial findings and comment on the results. Respondents could reject the findings, agree in principle with conditions or accept the outcome (see results in Appendix C). The second questionnaire contained all the summary answers with space for comments. Seven responses were received with general agreement on the concepts and minor detail comments. The only major critique from one respondent was his belief that project governance should be project specific. With the other seven respondents agreeing on a common framework with flexibility to accommodate project specifics, it was concluded that the original approach be maintained. It was further concluded that a third round of Delphi would not be necessary for further clarification.

The common agreement, reached after the second round of the Delphi survey, paved the way for the next step, that of developing a Concept Project Governance Framework (CPGF).



5.3 The concept project governance framework (CPGF)

With the key fundamentals of project governance firmly established, the next step was the development of the CPGF.

The following paragraphs will detail the process followed to develop the framework and illustrate and formulate the proposed framework.

5.3.1 Establishing the basis for CPGF development

In developing the CPGF, various findings in the research thus far have to be considered. This includes:

- The failures and listed shortcomings in the institutional arrangement of governance, as listed in Table 2.2. Although not addressed on an individual basis, the concerns listed need to be considered when formulating clauses and concepts. By considering these shortcomings the practicality of common critiques on governance will be addressed.
- The structure and layout of formal corporate governance frameworks such as Sarbanes Oxley (Table 3.1) and King II (Table 3.2). These structures will be used to ensure the CPGF alignment with current corporate governance practices as suggested by the Delphi respondents in questions 3 and 4 of the Delphi questionnaire.
- The comparison and summary of Sarbanes Oxley and King II, as listed in Table 3.3.
- The results of the Delphi research.
- The consideration of the guidelines set by APM (2004), OECD (2004), Cadbury Report (1992) as well as the United Nations Economic and Social Council (2005).

A further consideration that had to be incorporated when preparing for development of the CPGF, was how the framework would be tested on single or multiple cases. The framework has to assist in determining whether:



- The lack of project governance or the lack of project control had a dominant impact on poor project performance.
- The application (formal or informal) of project governance principles had a more significant impact on the positive outcome of project success than did project control.

Eventually, the research should ideally provide conclusive evidence of impact of project governance on project outcome and indicate whether project governance has a higher or lower impact on project success than project control does.

In developing the detail of the CPGF, the following process was followed:

Step 1 – Align corporate and project governance structures (address Delphi questions 3 and 4).

Step 2 – For each project governance category selected, include supplementary material and detailed concepts from the literature and Delphi results to populate the project governance column.

Step 3 – Complete CPGF framework and structure.

A process of deductive reasoning was followed to incorporate requirements contained in corporate governance frameworks and integrate requirements listed by respondents during the Delphi study into a new framework.

Apart from establishing a concept framework for project governance the CPGF also served as protocol to conduct the case study research.

The formulated CPGF would then be tested by means of the evaluation of multiple case studies.

5.3.2 Step 1 – Corporate and project governance alignment

Learning from the comparative study in Table 3.3, the main and sub-categories of corporate governance are listed in matrix format in Table 5.11 below. In order to align project governance to the matrix, a second column was inserted that contains the project principles to be addressed. The key items addressed are indicated in brackets and italic form in each cell. During Step 2 the allocated cells under project governance would be replaced and populated with the necessary motivation from identified sources.

Table 5.11: Corporate vs. Project Governance Alignment

	C. Corporate Governance	P. Project Governance
	A. Board of Directors and Audit Committee	A. Project Steering Committee
1. Composition	1. Core Competencies 2. Sufficient size 3. Comprised of executive and non-executive members 4. Chairperson should be independent	<i>(List Steering Committee composition requirements, competence and levels of independence)</i>
2. Responsibility	1. Board has ultimate accountability for the affairs of the company 2. Board should adopt a formal charter describing its responsibility, which should be disclosed annually	<i>(List how responsibilities and accountabilities should be handled within a project)</i>
3. Audit Committee to Board of Directors	1. Levels of independency 2. Financial literacy	<i>(Level of estimating and cost control management)</i>
	B. Financial Reporting and Internal Control	B. Cost and Benefit Management
1. Financial Reporting Responsibility	1. Board must report certain items annually regarding the preparation of financial statements and the use of effective internal controls 2. Quarterly certification by the CEO and CFO regarding compliance with the Exchange Act	<i>(Who takes responsibility for cost estimation and how must cost control be executed and reported)</i>
2. Financial Disclosures	1. Prohibition of certain non-GAAP information 2. Required disclosures in quarterly and annual reports of all material off-balance sheet transactions and	<i>(Level of financial and other interest disclosure among project stakeholders)</i>



	<p>other defined relationships</p> <p>3. All material correcting adjustments to the financial statements must be made</p>	
3. Internal Controls	<p>1. Internal control considered part of the risk management process</p> <p>2. Board must implement and maintain generally recognized risk management and internal control frameworks</p> <p>3. Disclosures must be made about the risk management process</p> <p>4. Requirement for quarterly certification by the CEO and CFO regarding their responsibility over the disclosure controls and procedures</p>	<p><i>(Formal requirements re. risk, quality and impact on project financial viability)</i></p> <p><i>(Any reference to project life-cycle management, project management in general and project control)</i></p>
	<u>C. Accounting and Auditing</u>	C. Project Reviews and Audits
1. Independence	<p>1. External auditors should observe the highest level of business and professional ethics and should be objective and aware of their accountability to shareholders</p> <p>2. Prohibits defined activities by the external auditor</p> <p>3. Stricter partner rotation rules, limits on employment of former external auditors, and prohibition of fees earned by the audit partner for certain non-audit services</p>	<i>(Any form of independence requirement from project auditors)</i>
2. Interaction with Companies	<p>1. Requires an effective internal audit function with a formal internal audit charter</p> <p>2. Requires mandatory communication between the external auditor and the audit committee</p>	<i>(Any stipulation and requirement with respect to audit function communication)</i>
3. New Attestation Report	<p>1. External auditor must issue an attestation report on management's internal control report</p>	<i>(Any form of attestation requirements)</i>
4. Disclosure	<p>1. Requires separate disclosure of the amounts paid to the external auditor for non-audit services, with a detailed description of the nature of services</p> <p>2. Requires disclosure of fees paid to a company's principal external auditor for the two most recent years, with a description of the nature of services</p>	<i>(Any requirements with respect to disclosure of auditors' compensation)</i>

	D. Organisational Ethics and Remuneration	D. Ethical, responsible conduct and conflict of interest
1. Code of Ethics	<ol style="list-style-type: none">Standards of ethical behaviour should be codified in a code of ethicsAdherence to this code should be disclosedCode should be made publicly available and any changes to the code or waiver from the code must be disclosed	<i>(Any requirement with respect to ethics and ethical behaviour by all or specific stakeholders)</i>
2. Compensation	<ol style="list-style-type: none">Performance-related elements of compensation should represent a substantial portion of the total compensation package	<i>(List any indication of requirement with respect to compensation of key project personnel, including Steering Committee)</i>
3. Safety, Health and Environment	<ol style="list-style-type: none">Included in business processes	<i>(List any formal requirement that could be legally binding)</i>
4. Social	<ol style="list-style-type: none">Requires detail regarding inclusion of all local labour and stakeholders	<i>(List any items required with respect to social responsibilities)</i>

5.3.3 Step 2 – Populating the Project Governance Cells

The above table provides a broad outline for respondent feedback that is directly linked to the framework of corporate governance. The variables to be addressed in corporate governance were listed and were to be viewed in the context of the projects. Apart from the variables listed any additional items and variables mentioned by the respondents were to be recorded and categorised in appropriate sections.

The CPGF was divided into four main sections, covering:

A – Structuring of the steering committee (aligned with the Board of Directors in corporate governance)

B – Cost Management (aligned with Financial Reporting and Internal Control in corporate governance)

C – Project Reviews and Audits (aligned with Accounting and Auditing in corporate governance)



D – Ethics, responsible conduct and conflict of interest (aligned with Organisational Ethics and Remuneration in corporate governance).

Each section discussed below was derived through deductive reasoning:

A. Board of Directors and Audit Committee versus Project Steering Committee

CA.1.1: (C) Corporate Governance – (A) Board of Directors and Audit Committee – (1) Composition - (1) Core Competencies

The National Association for Company Directors (NACD, 2002) states that the core competencies of the board as a whole should include the following core competencies:

- Accounting and finance – Expertise in financial accounting and corporate finance, including trends in debt and equity markets
- Business judgement – A record of making good business decisions
- Management – An understanding of the need and the intention to keep abreast of general management ‘best practices’ and their application in complex, rapidly evolving business environments
- Crises response – The ability and time to perform during both short-term and prolonged crises
- Industry knowledge – One or more members with appropriate industry-specific knowledge and experience
- International markets – Business experience in international markets
- Leadership – A knowledge and understanding of empowerment skills, and a history of motivating high-performing talent
- Strategy / vision – Ability to provide strategic insight and direction by encouraging innovation, conceptualising key trends, evaluating strategic decisions and continually challenging the company to sharpen its vision

Translating the above into the PA 1.1 cell, the following core competencies are proposed in-line with the corporate governance context:

PA.1.1: (P) Project Governance – (A) Project Steering Committee – (1) Composition - (1) Core Competencies

- Project finance and cost management (align with ‘accounting and finance’) – Expertise in project finance structuring, estimating and cash flow projections (Esty, 2004: 56). LCPs are all about business and investment decisions and the project steering committee should have proven ability to interpret project business proposals and to ask the right questions.
- Business / project alignment (align with ‘business judgement’) – ability to clearly define the actual business and strategic benefit the project will have (reference to Delphi question 2 response). The ability to link projects with strategy and compile portfolios of project or programmes has become a project field in its own right in recent years (Morris, 2004).

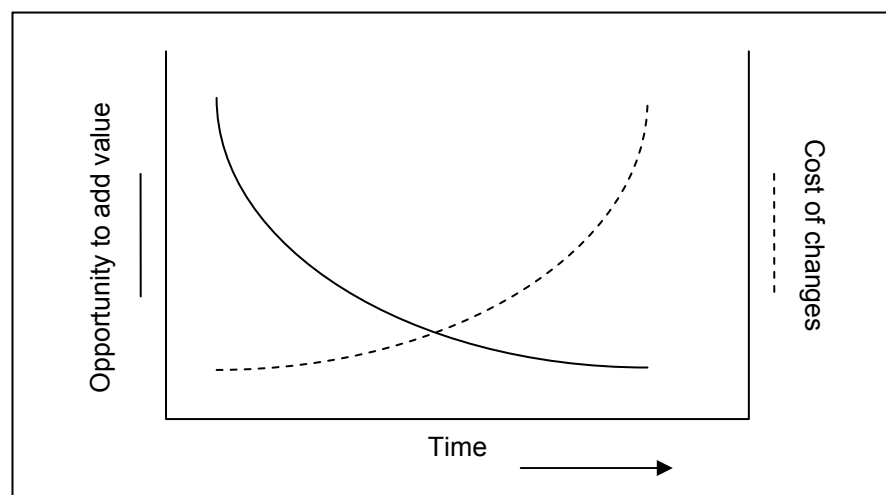


Figure 5.1: Project life-cycle behaviour

- Front-end-Loading (FEL) management (align with ‘Management’) – understand the importance of spending sufficient time during the upfront phases of the project to ensure proper definition, stakeholder alignment and value engineering (Legace, 2006). Since project governance is predominantly about setting up the project and preparing an environment

within which it has a chance to be successful, the importance of upfront work should be emphasised by the steering committee.

The item of FEL fits into the project life-cycle definition and management and specifically addressed the initial stages. A proper understanding of the characteristics and behaviour of the project over its life-cycle is of critical importance. This will necessitate the steering committee having the ability to judge the level of accuracy of total project scope definition. Figure 5.1 (Project life-cycle behaviour) illustrates the fact that the opportunity to add value decreases as the project progresses along its life-cycle, whilst the cost of change increases. Thus, if insufficient time is spent upfront to properly define the project scope and establish all the contractual and statutory agreements, the project might progress into cost and time difficulties during the later stages.

- Crises response (align with 'crises response') – Due to the temporary nature and excessive time pressures usually associated with projects, crises and crises management have become synonymous with project management. In project management the ability to manage a crisis, or sometimes various crises almost simultaneous, is paramount and synonymous with the temporary nature of a project. With a strong emphasis on deadlines, many good project managers are distinguished by their ability to perform under pressure.
- Industry knowledge (aligned with 'industry knowledge') – With the establishment of the PMI in the 1960s, the intention was, and in some areas still is, to develop the project management science and to promote project management as a profession. This implies that a person can be certified professionally as a PMP (Project Management Professional) and should be able to apply the knowledge and skills in any industry or in terms of any application. The IPMA (International Project Management Association) has similar certifications (CPM – Certified Project Manager, at various levels). However, the project management fraternity soon realised that different languages are used in different industries, resulting in the formation of Specific Interest Groups (SIGs). Currently, the debate



is still alive as to whether a PMP should be generally applicable or whether the project manager should have some technical and / or operational experience in the field where project management will be applied. Given more than 15 years practical experience and an informal survey that included experienced students in more than 50 project management teaching classes over a period of six years, it is strongly believed that, given the high impact nature of projects on skills required ... the project manager should be well versed with the area / industry of application. Project managers need by no means to be specialists in their industries, but they should have sufficient knowledge to prevent team members from pulling the wool over their eyes. The project manager should be able to ask relevant questions about issues and risks that could have a potential impact on project performance.

- International awareness (aligned with ‘international markets’) – Large capital projects by nature involve multiple nations. This multi-country and multi-culture involvement stems from the different capabilities and competitive advantageous developed by the multi-national construction and finance companies across the globe. The challenges that emerge from a self-developing global temporary organisation require sensitivity to different cultures from steering committee members.
- Leadership – Since the project steering committee operates at a strategic level, the question of leadership requirement should go un-debated. For project governance to be exercised efficiently, those elected onto the project steering committee should have proven leadership credentials, especially with LCPs and the political / business environment of the project itself.
- Strategic alignment capabilities – since the initiation of a LCP of any sort is usually the result of a macro strategic plan, the project steering committee must be fully aware of strategic intention and goals. The committee should also ensure that the strategic objective is adhered to during the complete project life-cycle and that all activities, contracts and stakeholder management be considered in the context of the total organisational strategy.



- Contract management – Due to the nature of large projects and extensive use of various contracting strategies and formats, it is believed that the steering committee should consist of members with extensive experience and knowledge of the technical, commercial and legal aspects of the respected contracting arrangements.

CA.1.2: (C) Corporate Governance – (A) Board of Directors and Audit Committee – (1) Composition - (2) Sufficient Size

Prescription regarding the size of board is hardly ever found.

Translating the above into the PA 1.2 cell, the following core competencies are proposed in line with the corporate governance context:

PA.1.2: (P) Project Governance – (A) Project Steering Committee – (1) Composition - (2) Sufficient Size

The size of the steering committee will be determined by the type, complexity and magnitude of the project. The steering committee members should ensure that the committee is populated with the correct skills and authority mix.

CA.1.3: (C) Corporate Governance – (A) Board of Directors and Audit Committee – (1) Composition - (3) Member Mix

King II [2002] recommends that the board should comprise a balance between executive and non-executive members, with the majority being non-executive and a sufficient number of whom should be independent of management. The UK's Higgs Review, in KPMG [2003], notes that the UK's Combined Code stipulates "at least half of the members of the board, excluding the chairman, should be non-executive directors".



Translating the above into the PA 1.3 cell, the following approach to steering committee member mix is proposed:

PA.1.3: (P) Project Governance – (A) Project Steering Committee – (1) Composition - (3) Member Mix

In a project environment, the steering committee should not only oversee the economic viability of the project but also its sustainability and non-monetary implications. With LCPs environmental and socio-economic impact could be significant and the steering committee mix should include representatives who will oversee and address these factors on behalf of stakeholders and not only protect the economic and infrastructural benefits or maximise shareholder interests. Each member of the steering committee should provide individual input from varying perspectives.

CA.1.4: (C) Corporate Governance – (A) Board of Directors and Audit Committee – (1) Composition - (4) Chairperson independent

Countries outside of North America are increasingly accepting the principle of a non-executive, independent chairperson for company boards. This separates the functions of the CEO and board chairperson. Many believe this is necessary to avoid giving too much power to the CEO. In general, the roles of the chairperson include:

- Providing overall leadership to the board without limiting the principles of collective responsibility for board decisions,
- Actively participating in the selection of board members,
- Addressing the development needs of the board as a whole and of individual directors,
- Monitoring and evaluating board and director performance appraisals,
- Developing a working plan for the board and compiling meeting agendas,
- Acting as the main information link between the board and management, and particularly between the board and the CEO,
- Ensuring the board has sufficient time to discuss issues,



- Maintaining relations with the company's shareholders and, perhaps some of its stakeholders, although the latter may be more in the nature of an operational issue to be conducted by the CEO and a senior management team,
- Ensure that all relevant information and facts are placed before the board objectively to enable directors to reach an informed decision.

Although preferably independent, the chairperson has specific roles and responsibilities regarding the strategic leadership of the company.

PA.1.4: (P) Project Governance – (A) Project Steering Committee – (1) Composition - (4) Chairperson independent

Due to the temporary nature of projects and the potentially wide economic, socio-economic and environmental impact during project execution and thereafter, the role of the steering committee chairperson might be more active and involved than the corporate board chairperson.

The steering committee chairperson should typically address:

- Establishment and confirmation of project governance criteria and guidelines,
- Upholding the highest standards of integrity and probity,
- Setting the agenda and adopting a progressive and proactive tone in steering discussions to promote effective and prompt decision-making,
- Promoting effective relationships and open communication, both within and external to the steering committee, as well as with the project manager and the project team,
- Promoting the highest standards of project governance and compliance,
- Ensuring effective consideration and implementation of steering committee decisions,
- Providing coherent leadership representing the broader community and effective liaison among financiers, stakeholders, tax payers and the project team through the project manager.



The steering committee chairperson is the custodian of project governance.

CA.2.1: (C) Corporate Governance – (A) Board of Directors and Audit Committee – (2) Responsibility - (1) Board Accountability

The board is ultimately responsible for ensuring that the business remains a going concern and that it thrives. The board retains full and effective control over the company and it must therefore ensure that it effectively controls the company, directs and controls the management of the company and is involved in all material decisions affecting the project [KPMG, 2003].

PA.2.1: (P) Project Governance – (A) Project Steering Committee – (2) Responsibility - (1) Committee Accountability

It is believed that the project steering committee should fulfil a similar role as the board in a corporate environment, but in a project context. The project steering committee is ultimately accountable for effective and all-inclusive development and implementation of the project, taking into consideration stakeholder interests and external environment management (external to the immediate project management activities). The committee should bridge the void between project manager and immediate public, and statutory environment within which the project will function. Items such as conflict of interest, environmental and socio-economic impact, as well as contracting strategies, should be pertinently addressed.

CA.2.2: (C) Corporate Governance – (A) Board of Directors and Audit Committee – (2) Responsibility - (2) Charter

Board should adopt a formal charter describing its responsibility, which should be disclosed annually.

PA.2.2: (P) Project Governance – (A) Project Steering Committee – (2) Responsibility - (2) Charter



For an LCP a formal project governance charter should be developed and agreed upon during the project initiation stages. The charter should be available to any role players or wider stakeholder community. The charter should address all the items listed in the project governance framework.

CA.3.1: (C) Corporate Governance – (A) Board of Directors and Audit Committee – (3) Audit Committee - (1) Levels of Independency

King II (2002) recommends an audit committee with non-executive members, the majority being independent and having sufficient financial literacy. The UK's Audit Committees Combined Code Guidance requires at least three members, all of whom should be independent non-executive directors. Furthermore, the chairman should not be an audit committee member.

PA.3.1: (P) Project Governance – (A) Project Steering Committee – (3) Audit Committee - (1) Levels of Independency

The project audit committee should be independent, with the steering committee excluded from the audit committee.

CA.3.2: (C) Corporate Governance – (A) Board of Directors and Audit Committee – (3) Audit Committee - (2) Financial Literacy

In general, corporate governance guidelines are very clear regarding the minimum financial literacy required for the audit committee.

PA.3.2: (P) Project Governance – (A) Project Steering Committee – (3) Audit Committee - (2) Project Literacy

Whereas corporate governance focuses on financial literacy, the project environment calls for a wider view that will not look at cost performance and compliance with procedures, but at all aspects of the nine knowledge areas of the PMBoK (PMI, 2005). Auditors should be experienced project managers who will view actions in the context of the immense time pressures associated



with projects and the search for faster and less bureaucratic methods of addressing the project objectives in a responsible manner.

B. Financial Reporting and Internal Control versus Cost Estimating and Benefit Management

CB.1.1: (C) Corporate Governance – (B) Financial Reporting and Internal Control – (1) Responsibility - (1) Board

In terms of corporate governance the board must report certain items annually regarding the preparation of financial statements and the use of effective internal controls.

PB.1.1: (P) Project Governance – (B) Cost and Benefit Management – (3) Responsibility - (2) Steering Committee

As opposed to a corporation, a project will not be driven by financial years but rather shorter intervals (i.e. six monthly). Instead of financial compliance, reporting should include expenditure control against baseline budget and continuous updating against the initial business plan or project justification parameters and benefits. The viability of the project against given and assumed parameters should be monitored and reported on at specific intervals.

CB.1.2: (C) Corporate Governance – (B) Financial Reporting and Internal Control – (1) Responsibility - (2) Exchange Act

Quarterly certification by the CEO and CFO regarding compliance with the Exchange Act

PB.1.2: (P) Project Governance – (B) Cost and Benefit Management – (3) Responsibility - (2) Project Governance Charter

Quarterly certification by the chairman of the steering committee that the project complies with the agreed upon project governance charter.



CB.2.1: (C) Corporate Governance – (B) Financial Reporting and Internal Control – (2) Financial Disclosures - (2) Non-GAAP

Various corporate governance frameworks mention the disclosure of certain non-GAAP information.

PB.2.1: (P) Project Governance – (B) Cost and Benefit Management – (2) Financial Disclosures - (1) Project Finances

For any financial activities outside the GAAP requirements, full disclosure will be required.

CB.2.2: (C) Corporate Governance – (B) Financial Reporting and Internal Control – (2) Financial Disclosures - (2) Reports

Required disclosures in quarterly and annual reports of all material off-balance sheet transactions and other defined relationships

PB.2.2: (P) Project Governance – (B) Cost and Benefit Management – (2) Financial Disclosures - (2) Reports

Project's financial status to be reported on a quarterly basis.

CB.2.3: (C) Corporate Governance – (B) Financial Reporting and Internal Control – (2) Financial Disclosures - (2) Corrections and Adjustments

All material correcting adjustments to the financial statements must be made.

PB.2.3: (P) Project Governance – (B) Cost and Benefit Management – (2) Financial Disclosures - (3) Corrections and Adjustments



All changes, including stakeholder requirements and scope, with the resulting impact on the project's financial and time performance, must be reported within the immediate quarterly term.

CB.3.1: (C) Corporate Governance – (B) Financial Reporting and Internal Control – (3) Internal Control - (1) Risk Management Processes

Internal control is considered part of the risk management process.

PB.3.1: (P) Project Governance – (B) Cost and Benefit Management – (3) Internal Control - (1) Risk Management Processes

At a strategic / steering committee level, the cost and benefit calculations and predictions, as well as the assumptions and basis for project justification needs to be monitored and updated on a continual basis. The updated project values and benefits should be used to identify and mitigate financial risks.

CB.3.2: (C) Corporate Governance – (B) Financial Reporting and Internal Control – (3) Internal Control - (2) Risk Management

The board must implement and maintain generally recognized risk management and internal control frameworks.

PB.3.2: (P) Project Governance – (B) Cost and Benefit Management – (3) Internal Control - (2) Risk Management

The steering committee must ensure that proper risk identification, quantification and mitigation planning is done on the project, not only financially but covering at least the nine PMBoK Knowledge areas [PMI, 2004].

CB.3.3: (C) Corporate Governance – (B) Financial Reporting and Internal Control – (3) Internal Control - (3) Risk Disclosure



Disclosures must be made about the risk management process.

PB.3.3: (P) Project Governance – (B) Cost and Benefit Management – (3) Internal Control - (2) Risk Disclosure

Disclosures must be made about all the risks on the project during the total project life-cycle.

CB.3.4: (C) Corporate Governance – (B) Financial Reporting and Internal Control – (3) Internal Control - (3) Risk Certification

Requirement for quarterly certification by the CEO and CFO regarding their responsibility over disclosure controls and procedures.

PB.3.4: (P) Project Governance – (B) Cost and Benefit Management – (3) Internal Control - (2) Risk Certification

Requirement for monthly certification by the chairperson of the steering committee of disclosure controls and procedures.

C. Accounting and Auditing versus Project Reviews and Audits

CC.1.1: (C) Corporate Governance – (C) Accounting and Auditing – (1) Independence - (1) Objectivity

External auditors should observe the highest level of business and professional ethics and should be objective and aware of their accountability to shareholders.

PC.1.1: (P) Project Governance – (C) Project Reviews and Audits – (1) Independence - (1) Objectivity

As with corporate governance, the external auditors on the project should observe the highest levels of business and professional ethics and should be



objective and aware of their accountability, not only to shareholders, but to stakeholders in general.

As opposed to corporate auditing, project auditors should look beyond financial and procurement compliance to the regulatory, statutory, ethical and managerial environment created for the project to be successful. The external auditors should therefore be qualified and experienced in LCP management.

CC.1.2: (C) Corporate Governance – (C) Accounting and Auditing – (1) Independence - (1) Scope

Prohibits defined activities by the external auditor.

PC.1.2: (P) Project Governance – (C) Project Reviews and Audits – (1) Independence - (1) Scope

Project reviews and audits should not be confined to adherence to in-house methodologies and practices, but should include items that the review / audit deems necessary to protect stakeholder interests.

CC.1.3: (C) Corporate Governance – (C) Accounting and Auditing – (1) Independence - (1) Rotation

Stricter partner rotation rules, limits on employment of former external auditors and prohibition of fees earned by the audit partner for certain non-audit services.

PC.1.3: (P) Project Governance – (C) Project Reviews and Audits – (1) Independence - (3) Rotation

Auditors should have no direct or indirect interest in the project or in the contractors / suppliers involved with the project.



CC.2.1: (C) Corporate Governance – (C) Accounting and Auditing – (2) Interaction - (1) Internal Charter

Requires an effective internal audit function with a formal internal charter.

PC.2.1: (P) Project Governance – (C) Project Reviews and Audits – (2) Interaction - (1) Internal Charter

Requires an effective internal audit function with a formal internal charter. The internal audit function should also include the auditing of project management, adherence to project methodologies, process and agreed practices and the project team's functioning.

CC.2.2: (C) Corporate Governance – (C) Accounting and Auditing – (2) Interaction - (1) Communication

Requires mandatory communication between the external auditor and the audit committee.

PC.2.2: (P) Project Governance – (C) Project Reviews and Audits – (2) Interaction - (2) Communication

As with corporate governance, it requires mandatory communication between the external auditor and the audit committee.

CC.3.1: (C) Corporate Governance – (C) Accounting and Auditing – (3) Attestation - (1) Report

External auditor must issue an attestation report on management's internal control report.

PC.3.1: (P) Project Governance – (C) Project Reviews and Audits – (3) Attestation - (1) Report



External auditor must issue an attestation report on the project's internal control report.

CC.4.1: (C) Corporate Governance – (C) Accounting and Auditing – (4) Disclosure - (1) Non-audit services

Requires separate disclosure of the amounts paid to the external auditor for non-audit services with a detailed description of the nature of services.

PC.4.1: (P) Project Governance – (C) Project Reviews and Audits – (4) Disclosure - (1) Non-audit services

As with corporate governance, it is required that separate disclosures of the amounts paid to the external auditor for non-audit services, with a detailed description of the nature of services, is made.

CC.4.2: (C) Corporate Governance – (C) Accounting and Auditing – (4) Disclosure - (2) Fees

Requires disclosure of fees paid to a company's principal external auditor for the two most recent years, with a description of the nature of services.

PC.4.2: (P) Project Governance – (C) Project Reviews and Audits – (4) Disclosure - (2) Fees

Requires disclosure of fees paid to a company's principal external auditor since project commencement.

D. Organisational Ethics and Remuneration versus Ethical, Responsible Conduct and Conflict of Interest

CD.1.1: (C) Corporate Governance – (D) Ethics – (1) Code - (1) Standards

Standards of ethical behaviour should be codified in a code of ethics.



PD.1.1: (C) Project Governance – (D) Ethics – (1) Code - (1) Standards

Due to a relatively high amount of cash flowing over a fairly short period of time on a project, the opportunity for misconduct, corruption and other greedy practices was in fertile territory. The standards for ethical behaviour should be clear and based on established and statutorily accepted laws, guidelines and practices as well as global guidelines and directives (e.g. World Bank, United Nations, etc.).

A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):

- Environment
- Social aspects
- Socio-economic aspects
- Conflict of interest guidelines

CD.1.2: (C) Corporate Governance – (D) Ethics – (1) Code - (2) Adherence

Adherence to the Code of Ethics should be disclosed.

PD.1.2: (C) Project Governance – (D) Ethics – (1) Code - (2) Adherence

Adherence to the Code of Ethics should be disclosed and reported on a monthly basis.

The logical deduction approach to formulating the CPGF proved to be a comprehensive exercise. With no similar framework available for comparison purposes, validation and justification of each component was necessary. For practicality and comparative purposes, the CPGF is summarised in the next paragraph.

5.4 The CPGF

The summarised CPGF, derived from the Delphi results and various other inputs, is given below in Table 5.12.

Table 5.12: Concept project governance framework

	P. Project Governance
	A. Project Steering Committee
1. Composition	<p>1. <i>Core Competencies</i></p> <ul style="list-style-type: none">• <i>Project finance and cost management</i>• <i>Business / project alignment</i>• <i>Front-end-Loading management</i>• <i>Crises response</i>• <i>Industry knowledge</i>• <i>International experience</i>• <i>Leadership</i>• <i>Strategic alignment capability</i>• <i>Contract management capabilities</i> <p>2. <i>Steering Committee Size</i> <i>Determined by project type, complexity and magnitude</i></p> <p>3. <i>Member Mix</i> <i>Comprise members with direct interest as well indirect stakeholder representatives i.e. socio-economic and environmental</i></p> <p>4. <i>Chairperson Independent</i> <i>The chairperson should be independent from any project stakeholders</i></p>
2. Responsibility	<p>1. <i>Committee Accountability</i> <i>Overall accountability</i> <i>Bridging the gap between the project and the immediate external and statutory environment</i></p> <p>2. <i>Charter</i> <i>Development and adherence to project charter</i></p>



<p>3. Audit Committee to Board of Directors</p>	<p>1. <i>Levels of Independence</i> <i>The project audit committee should be independent with the steering committee excluded from the audit committee</i></p> <p>2. <i>Project Literacy</i> <i>The Audit Committee should have extensive project experience on all aspects of LCPs</i></p>
<p>B. Cost and Benefit Management</p>	
<p>1. Financial Reporting Responsibility</p>	<p>1. <i>Steering Committee</i> <i>Report against approved budget</i></p> <p>2. <i>Project Governance Charter</i> <i>Report on adherence to the charter</i></p>
<p>2. Financial Disclosures</p>	<p>1. <i>Project Finance</i> <i>For any financial activities outside the GAAP requirements, full disclosure will be required</i></p> <p>2. <i>Reports</i> <i>Project financial status to be reported on a quarterly basis</i></p> <p>3. <i>Corrections and Adjustments</i> <i>To be reported quarterly</i></p>
<p>3. Internal Controls</p>	<p>1. <i>Risk Management Process</i> <i>Formal risk management processes should be in place</i></p> <p>2. <i>Risk Management</i> <i>The steering committee must actively ensure that proper risk identification, quantification and mitigation planning is done on the project - not only the financials but covering all aspects of the project</i></p> <p>3. <i>Risk Disclosure</i> <i>Disclosures must be made about all the risks on the project during the total project life-cycle</i></p> <p>4. <i>Risk Certification</i> <i>Requirement for monthly certification by the chairperson of the steering committee regarding disclosure controls and procedures</i></p>
<p>C. Project Reviews and Audits</p>	
<p>1. Independence</p>	<p>1. <i>Objectivity</i> <i>Independence and objectivity of the project auditors and reviewers must be ensured</i></p> <p>2. <i>Scope</i> <i>Project reviews and audits should not be confined to adherence to in-house methodologies and practices, but should include items that the review / audit deems necessary to protect stakeholder interests</i></p>

	<p>3. Rotation <i>Auditors should have no direct or indirect interest in the project or in the contractors / suppliers involved with the project</i></p>
2. Interaction with Companies	<p>1. Internal Charter <i>The internal charter should include the approach towards the auditing of project management, the adherence to project methodologies, processes and agreed practices and the project team's functioning</i></p> <p>2. Communication <i>As with corporate governance, mandatory communication between the external auditor and the audit committee is required</i></p>
3. New Attestation Report	<p>1. Report <i>External auditor must issue an attestation report on the project's internal control report</i></p>
4. Disclosure	<p>1. Non-audit services <i>As with corporate governance, it is required that separate disclosure is made of the amounts paid to the external auditor for non-audit services together with a detailed description of the nature of services</i></p> <p>2. Fees <i>Requires disclosures of fees paid to a company's principal external auditor since project commencement</i></p>
D. Ethical, responsible conduct and conflict of interest	
1. Code	<p>1. Standards <i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none"> • <i>Environment</i> • <i>Social aspects</i> • <i>Socio-economical aspects</i> • <i>Conflict of interest guidelines</i> <p>2. Adherence <i>Adherence to the code of ethics should be disclosed and reported on a monthly basis</i></p> <p>3. Disclosure <i>Code should be made publicly available and any changes to the code or waivers from the code must be disclosed</i></p>
2. Compensation	<p>1. Performance <i>Performance-related elements of compensation should represent a substantial portion of the total compensation package</i></p>
3. Safety, Health &	<p>1. Adherence</p>

Environment (SHE)	<i>SHE requirements should be to international standards as a minimum and supplemented by host country requirements</i>
4. Social	<i>1. Adherence Social and socio-economic considerations should be to international standards as a minimum and supplemented by host country requirements</i>

This CPGF is in a format to be evaluated, tested and updated against actual project case studies.

5.5 Summary

This chapter aimed at producing validated information in terms of the overall research objective of producing a project governance model or framework. A comprehensive Delphi study was done with answers to the open-ended questions converging after two rounds. The average profile of the respondent was that of well experienced and knowledgeable project practitioners and academics.

The most significant observations emanating from the Delphi study were the statement that a gap in project management theory exists with respect to project governance and that an eventual project governance framework should compliment and be aligned with corporate governance guidelines.

A CPGF was derived for evaluation against project case studies.

The next chapter will review the use of case study research and the methods to be used in this dissertation. Two sources of case studies will be used to assess the CPGF, namely case studies available in literature and selected case studies to be investigated in depth.



Chapter 6: The Case Study Method

In the academic and research fraternity case study research remains contentious. Purists in social research are convinced that generalisations can only be made from quantitative data and that single case studies especially are not suitable as a basis for theory building. The validity of this approach has always been questioned by the proponents of qualitative research. Although the debate remains, and will possibly continue into the future, since the 1980s convincing arguments have surfaced that support and recognise case study research as a valid form of scientific research and theory building (Eisenhardt, 1989). Authors, researchers and academics who recognise and support the value and use of case study research include Flyvbjerg (2006), Emory (1985), Mitchell (1983), Bromley (1986) Edwards (1989), Eckstein (1975) and Bryman (1988).

During an in-depth study of the main arguments against case study research, Flyvbjerg (2006) provided strong evidence that case study research can be of great value, especially where quantitative assessments are not possible. Flyvbjerg (2006) addresses what he considers to be the five most common myths regarding case study research. These myths argue that:

- theoretical knowledge is more valuable than practical knowledge;
- one cannot generalise from a single case, therefore the single-case study cannot contribute to scientific development;
- the case study is most useful for generating hypotheses, whereas other methods are more suitable for hypothesis testing and theory building;
- the case study contains a bias towards verification; and
- it is often difficult to summarise specific case studies.

Although it is not the purpose of this chapter to enter the debate as to whether case study research is a valid form of social research or not, the observations made by the 'quantitative' school and the arguments of the 'qualitative' school are duly considered in designing the remainder of this research.



In order to provide a valid argument for using case studies in the remainder of this research, the following paragraphs will provide a short overview of where case study research originated as a research method. The background will be followed by an overview of the different types of case studies, the typical process of designing a case study and finally an explanation regarding its validity and suitability as a research strategy for this dissertation.

6.1 The origin and development of case studies

The use of case study research originated in the early 20th century in the field of medicine (Wikipedia, 2 May 2007). The first attempt to create theory from cases studies was fostered by sociologists Barney Glaser and Anselm Strauss in their Grounded Theory concept in 1967. Since then, case studies have been used more frequently in social research but gained extreme popularity in teaching. The Harvard Business School was one of the first tertiary institutions to realise that information contained in text books might not be sufficient to explain grounded theoretical concepts. The first case studies for teaching were based on interviews with leading business leaders and documented in a structured format. In case study teaching, no solution is given and the different cases are mostly used to stimulate discussions.

6.2 Different types of case studies

According to Yin (2003), the case study is one of several ways of doing social science research. Other research methods include experiments, multiple histories, surveys and analysis of historic or archival information. However, case studies have become popular in research topics that have a strong explanatory nature. When questions such as 'how' and 'why' are posted, some in-depth study and search for meaning is sometimes required.

Even within the collective name of 'case studies', various forms of case study methods exist. The first, and probably most widely acknowledged form of case study research is the *descriptive study*. As explained by Page and Meyer



(2005), the descriptive study “sets out to describe a phenomenon or event as it exists, without manipulation or control of any elements involved in the phenomenon or event under study”. In its simplest and most general form, the descriptive study will conduct an in-depth description of an individual, organisation or group of objects to determine whether each case fits a particular theory better than another or to determine whether something makes the specific case, or group of cases, different to similar types of cases. The descriptive study is founded on the phenomenological approach that considers every situation or phenomenon to be unique and that this very uniqueness contributes most to a better understanding of the whole.

Another prominent case study method is the *exploratory study*. This type of study looks for ideas, patterns or themes that may be evident in single or multiple situations (Page & Meyer, 2005). Exploratory studies are most often undertaken as a first step when much uncertainty exists and before a large-scale investigation is launched. One of the pitfalls of exploratory research is the potential for premature conclusions and over-generalisation from specific events.

A third type of case study is the *critical instance* case study (Wikipedia, 2 May 2007). This type of case study research aims to examine one or more sites for one or two purposes. The technique is popular when a situation of unique interest is investigated that can often not be generalised. A second application is when a generally accepted assertion is evaluated against a single, unique instance that could potentially contradict general belief. As an example: In 1650, with the development of the vacuum pump, it was proven in a single case that a feather and a coin fall at the same speed. This confirmed Galileo’s hypothesis and rejected the general belief as proposed by Aristotle.

Other forms of case studies that are not commonly used include program effect case studies, prospective case studies, cumulative case studies, narrative case studies and embedded case studies (Wikipedia, 2 May 2007). However, the decision regarding the type of case study method to be used depends on the case itself as well as on the case study design.



A case study is research in depth rather than in breadth and can contribute to our understanding of a specific phenomenon or construct. In the scientific enquiry after truth, the research design and tools are dictated by the data available. Once the draft CPGF was developed, the need existed to find empirical support for the model and also to find information from practice that would improve the framework. For purposes of investigating project governance, relevant information is available for specific cases and for this exploratory study an in-depth analysis of a few cases was preferred to a survey that would include a large number of cases but would limit the depth of analysis.

The ideal would have been to investigate governance practices of a few highly successful projects as well as of a number of highly unsuccessful projects, but the realism of unwillingness to participate of project managers and others involved in unsuccessful projects was soon realised.

6.3 Designing a case study

In designing a case study, various items and criteria need to be addressed. The most critical item is probably the unit of analysis. Once the unit of analysis is agreed and confirmed the remainder of the design process can commence, namely: the decision regarding single or multiple case studies, the design of the case study process and protocol, the collection of data and the compilation of the case report. The following paragraphs provide an overview of the key areas to be addressed when designing a case study.

6.3.1 Case study criteria

According to Yin (2003), case studies should contain five components, namely:

- The study's questions
- Its propositions (if any)
- Its unit of analysis



- The logical linking of the data to the propositions, and
- The criteria for interpreting the findings.

Of the five components, the unit of analysis most often determines the success and acceptability of the final postulation. If the unit of analysis is clear, the logical linking of the data to the propositions and the criteria for interpretation become less controversial and questionable.

To address the challenge of establishing proper units of analysis, the four main criteria for validity need to be addressed, namely: construct validity, internal validity, external validity, as well as reliability (Yin, 2003). *Construct* validity seems to be the most problematic area in case study research. The element of subjectivity usually comes into being at this point and, if not addressed properly, it can open the research to serious criticism. The most critical items to be addressed to ensure construct validity are the development of a set of sufficient operational measurements and the use of 'subjective' judgement to collect data. Yin (2003) suggests three tactics to increase construct validity, namely:

- The use of multiple sources of evidence,
- Establishing a chain of evidence that supports the overall reasoning with regard to the conclusions, and
- The draft case study report must be reviewed by key informants.

Obviously it will not always be possible to employ all the tactics for construct validation. However, it is believed that at least one tactic should be employed.

Internal validity is mostly concerned with causal relationships and this might not be valid for descriptive and exploratory case studies. *External* validity addresses the generalisation of the findings. According to Yin (2003), the concept of generalisation can be problematic in the case study arena if it is not understood properly. In quantitative studies, surveys are done across a broader audience from which result a statistical generalisation can be made. For case studies, as with experiments, the generalisations are based on analytical results and not survey results.



To ensure *reliability*, the method of data collection and analysis must be such that, if another researcher conducts the same research, he/ she will achieve the same results. In other words, the emphasis is on doing the same case over again, rather than replicating the results by doing another case study. Case study research attempts to generalize to some theory or proposition rather than to some population of which the case would be representative. These four validity checks are critical for any case study research and will be discussed in the context of this dissertation towards the end of this chapter.

6.3.2 Single or multiple case studies

The decision to conduct single or multiple case studies is discussed and debated in fair detail by numerous authors in the field of case study research (Yin, 2003; Eisenhardt, 1989; and Flyvbjerg, 2006). Listed as the second myth in case study research, Flyvbjerg (2006) argues quite convincingly that single cases can be generalised to confirm and falsify generally accepted facts. He illustrates the validity of using single cases by referring to Galileo's rejection of Aristotle's law of gravity. The eventual rejection was based on theoretical and one practical illustration.

Accepting that single case studies are a valid form of case study research, the focus moves towards the selection criteria that determines whether single or multiple case studies will be done.

Yin (2003) refers to a four-quadrant matrix (see Figure 6.1 below) that illustrates the different types of single and multiple case studies:

- Type 1 case studies refers to single-case holistic designs
- Type 2 to single-case embedded designs
- Type 3 to multi-case holistic designs, and
- Type 4 to multi-case embedded designs.

In order to distinguish between the different designs, and decide which design is most suitable for a specific situation, a short description of each design is given below.

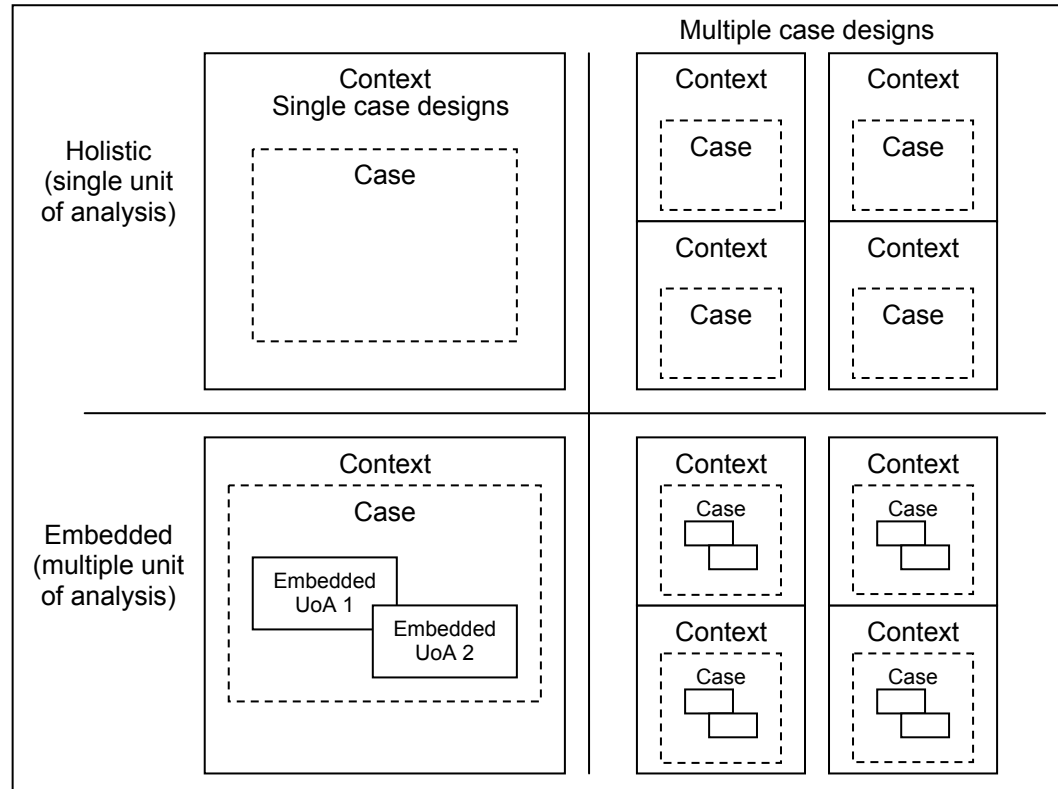


Figure 6.1: Case study design types

Source: COSMOS Corporation, in Yin (2003)

The major decision during case study design is whether to embark on single (Type 1 and 2) or multiple (Type 3 and 4) case design. Yin (2003) provides five conditions for single case study research, i.e.:

- Critical case – used when testing a well-formulated theory,
- Extreme or unique case – especially in clinical psychology where a specific case might be so rare that it warrants specific documenting,
- Representative or typical case – capturing the circumstances and conditions prevalent in everyday life,
- Revelatory case – a situation to be analysed that was previously inaccessible,
- Longitudinal case – studying the same case at different points in time.



In order to differentiate between the holistic and embedded nature of a case study, the units of analysis should be considered. For embedded case studies, the units of analysis might comprise various sub-measurements, whilst for the holistic case study the examination considers only the overall program or organisation.

By implication, multiple case studies involve more than one single case. In general, the evidence of multiple case studies is often more acceptable than single case studies and is regarded as more robust (Herriott & Firestone, 1983). Multiple case studies can be a mammoth task and care should be taken to clearly assess the role of each case study in the overall research objective. According to Yin (2003), in multiple case studies, the focus should be on replication and not sampling logic. With this argument as the point of departure, Yin (2003) provides a strong, and differentiating, argument that sets the context for multiple case study design (and the context for this dissertation's case study component). He argues that an important step in the replication approach is the development of a rich theoretical framework. The framework should clearly state the conditions under which a particular phenomenon can be found. This theoretical framework should become the base or foundation from which generalisations can be made. Furthermore, as with experimental science, if the empirical results do not work as predicted, modifications to the theory must be possible. This bears in mind that theories can be practical and not only academic, something that strengthens the arguments of Flyvbjerg (2006).

6.3.3 Case study process

The process of case study research is described comprehensively by Yin (2003). A simple process, incorporating multiple case studies, outlines the key activities and deliverables in a phased approach. A schematic diagram of the process is given in Figure 6.2.

The process starts with the development of a basic theory or theoretical framework. The next step entails a parallel process during which the research protocol is compiled as well as the appropriate case studies selected. The design and development of the research protocol is a critical component of the case study process and is addressed in more detail in the next paragraph. This is succeeded by the 'prepare, collect and analyse' phase, wherein various cases studies are conducted and the individual reports compiled. Given the results in the reports, cross-case analysis is done to explain why similarities and differences between the various case studies were to be found. The dotted line indicates that there may be situations where certain findings could have an impact on the fundamental theoretical reasoning and potential adjustments need to be incorporated before finalisation. In conclusion, the final theoretical base is established and a final report produced.

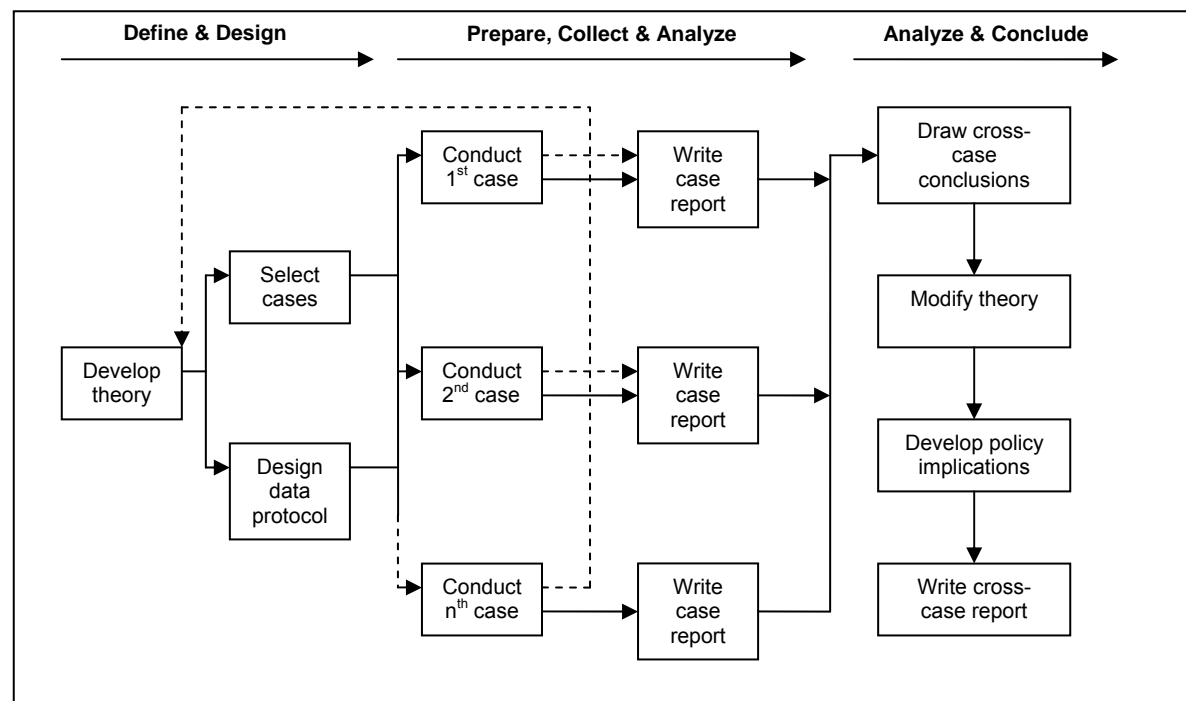


Figure 6.2: Case study process

Source: COSMOS Corporation, in Yin (2003)

6.3.4 Case study protocol

The case study protocol helps to ensure a consistent, coordinated and standardised approach to conducting a case study. A well established case



study is of critical importance, especially in multiple case studies (Yin, 2003). According to Herriott & Firestone (1983), the use of a well defined data collection process (protocol) increases the reliability of case study research, especially for multiple cases.

The protocol recommended by Yin (2003) comprises the following key components:

- A. Introduction to the case study and purpose of the protocol
 - A.1. Case study questions
 - A.2. Theoretical framework
 - A.3. Role of the protocol in guiding the case study
- B. Data collection procedures
 - B.1. Names of sites to be visited and contact people
 - B.2. Data collection plan
 - B.3. Preparation prior to site visit
- C. Outline of case study report
 - C.1. Practice in operation
 - C.2. Innovativeness of the practice
 - C.3. Outcomes of the practice
 - C.4. Any attachments
- D. Case study questions
 - D.1. Aligned with theoretical framework
 - D.2. Evaluation

Although some flexibility is allowed in the case study protocol, the process provides a standardised method that should guide the case study investigation in a more uniform manner.

Finally the unit of analysis were:

- Which of the project governance elements were addressed during the project?
- Were the elements handled formally or informally?
- For those handled informally, would it be advisable to address it formally?



6.3.5 Summary

Even though some criticism towards case study research is still prevalent in the social sciences research fraternity, overall acceptance of case study research as a valid form of research has increased since the 1980s. The increase in acceptance can be attributed to various individuals and proponents of the case study as a research method. Through their efforts and experience, researchers established practical methods, processes and protocols to follow that increase the reliability and rigor of case research.

The validity of case study research begins with a proper definition of the unit of analysis, followed by the decision to embark on either a single or multiple case study approach. A properly structured process is recommended, starting with the development of a theoretical framework, the selection of cases and the drafting of the research protocol. The actual cases are then studied and the results compiled into an individual case study report. The various case results are then cross referenced, analysed and the final report submitted. During the process, opportunities exist to re-evaluate the theoretical framework.

For the research protocol, Yin (2003) provides a structured format of how to establish a standardised case research protocol. The protocol aims to increase the reliability, rigor and common approach toward case study research, especially when performing multiple case studies.

The practical guidelines obtained during the literature review of case studies as research method are used in this chapter to design the research process for this dissertation. In the following paragraphs, the approach taken to conduct the case studies for this dissertation is discussed.



6.4 Designing a case study process for this dissertation

As learned from literature, a properly defined research process and protocol enhances the reliability and rigor of case study research significantly. The following paragraphs address the most important parameters for case study design, as explained in the previous paragraphs, in the context of this dissertation. The parameters include: theoretical framework, unit of analysis, decision regarding single or multiple cases, protocol design, and the research process.

6.4.1 Theoretical framework

The theoretical framework forms the anchor and key point of reference for this research. The initial CPGF was developed from an extensive literature review of LCP performances and characteristics as well as the evolution of corporate governance. Further input for the CPGF was obtained from an extensive Delphi study, which provided information from experienced and knowledgeable project practitioners and academics. Eventually four main areas of assessment were established, namely: (A) Project Steering Committee, (B) Cost and Benefit Management, (C) Project Reviews, and (D) Ethical, Responsible Conduct and Conflict of Interest. In completion of this dissertation, the theoretical framework was updated and finalised in the final version of the CPGF.

Each area of assessment contains several sub-areas against which measurements of compliance can be assessed.

6.4.2 Units of analysis

The primary objective of the case studies was to:

Determine the validity of the initial CPGF and identify areas for improvement.



The results were to provide a clear indication in terms of an answer to the initial research questions, namely:

What should a project governance framework for Large Capital Projects (LCPs) comprise of?

and

To what extent have project governance principles been applied on LCPs, formally or informally in LCP cases, and to what extent can the outcomes be attributed to the presence or absence of governance principles?

The first question was dealt with, to a large extent, during the Delphi study, while the case studies would provide further inputs to, not only the contents, but also to the actual extent of application, as intended in the second research question.

Thus, for the case studies, the units of analysis are:

- To what extent have the assessment areas, as defined in the CPGF, been addressed in each case study?
- Were the assessment areas addressed formally or informally?
- How important are the assessment areas relative to each other?
- What should be included in the assessment areas to make the CPGF content more complete (i.e. what is currently missing)?

The same units of analysis were applied to all the case studies and noted in each case report.

6.4.3 Single or multiple case studies

Due to the exploratory nature of this dissertation, a multiple / embedded case study approach was taken. The objective of this dissertation is to establish something that does not yet exist in its final form (the CPGF), rather than proving a theory right or wrong. The measurements were taken against the

level of project success or failure and then at a lower level where the performance against specific CPGF categories were measured.

Due to the sensitive nature of in-depth case study research, some resistance was to be expected from participants who were involved in cases that were not that successful. To counter this constraint, a secondary case study process was launched that studied cases documented in the literature. This secondary case research attempted to find the root cause of failure or success and tried to map the likely cause against a specific CPGF assessment area.

Table 6.1: Case study protocol

	Protocol guideline (Yin, 2003)	Application to this study
A	Introduction to the case study and purpose of the protocol	
A.1	Case study questions	Case study questions aligned with initial research problem statement, research questions and objective, as explained in Chapter 1.
A.2	Theoretical framework	Rigorous theoretical base portrayed in the CPGF.
A.3	Role of the protocol in guiding the case study	A standard approach was established to ensure reliability and repeatability.
B	Data collection procedures	
B.1	Names of sites to be visited and contact people	List of most senior people on the project (typically project steering committee members) and the responsible project manager. Contact information included mobile phone number and e-mail address.
B.2	Data collection plan	Comprises of literature search on each case study, personal interviews and opportunity for response by participants after interviews.
B.3	Preparation prior to site visit	Formal arrangement for meetings and logistics. Issued formal letters of invitation (see example in Appendix D). Group sessions in the form of the NGT with necessary information forwarded to each participant at least a week before the session.
C	Outline of case study report	

C.1	Practice in operation	Follow CPGF outline to facilitate discussion and structure of final report.
C.2	Innovativeness of the practice	Used formal NGT method. Where allowed, discussions were recorded digitally.
C.3	Outcomes of the practice	Updated CPGF per assessment area.
C.4	Any attachments	Any additional, complimentary information.
D	Case study questions	
D.1	Aligned with theoretical framework	As per CPGF.
D.2	Evaluation	Against CPGF assessment areas. Formal feedback to participants.

6.4.4 Case study protocol

The importance of a case study protocol cannot be over emphasised. Table 6.1 above provides detail of how each component of a typical protocol, as proposed by Yin (2003), is addressed for the case study exercise in this dissertation. The protocol was established for the primary case study research, while the secondary case study research only followed the CPGF assessment criteria.

This tabulated protocol formed the structure of the primary case studies conducted in this dissertation.

For the primary case studies, two projects were selected. The first project comprised an aluminium smelter, namely the Mozal I project in Mozambique. The project was selected due to its multi-component and cross-border component (South Africa and Mozambique), as well as because of the participation by multiple companies from various countries (Japan, Canada, etc.). The project was acknowledged by the Project Management Institute (USA) as "Project of the Year, 2001".



The second primary project was the Lesotho Highland Water Project, which included multiple dams and water distribution systems. The project was selected due to the complicated political conditions under which it was implemented as well as for its multi-country participation. The project was also easily accessible for the researcher from a logistical point of view.

Apart from the in-depth study into the two primary case studies, a total of 15 secondary cases studies from literature were completed. The purpose of the secondary case studies was to verify and further validate the contents of the CPGF.

The primary case studies are discussed in Chapter 7, while Chapter 8 provides a review of the secondary case studies.



Chapter 7: Case Studies – Nominal Group Technique and Structured Interviews

This section of the research, namely case studies, comprises two main parts. The first part contains detailed case study reviews through structured interviews, utilising the Nominal Group Technique (NGT) to arrive at inputs and adjustments to improve the CPGF content and practical application. The aim of the first part is thus to further develop the CPGF towards a final framework for practical application.

The second part, discussed in the next chapter, reviews case studies available in literature against the CPGF. The aim of this secondary case study review is to assess whether the case projects applied the concepts of the CPGF and what the end result was for each case study.

7.1 Case studies utilising NGT

For this part, two case studies were selected. An attempt was made to select a larger sample with a mix of successful and unsuccessful projects. However, due to the sensitivities in gaining access to troubled projects and their information, as well as people being unwilling to discuss poor performance against a structure CPGF, were problematic. Eventually two large successful projects were selected, namely the Mozal 1 Project and the Lesotho Highlands Water Project (LHWP). For the less successful projects, a literature search was conducted and mini case studies were obtained to test the CPGF (second part of the case study research).

Each project, with the respective results and input to the CPGF, is analysed in the following paragraphs. Each starts with a short background, the NGT group profile and the comments to the CPGF per listed item. For each case study the overall objectives were to:



- Assess to what extent the concepts contained in the CPGF were applied formally and / or informally to each specific case and what the impact thereof was,
- Assess what changes and / or refinements are required to the CPGF to make it more complete, and
- Rank the components in the CPGF from most important to least important.

The results of each case study were reviewed and, where necessary, adjustments and updates were made to the CPGF. The changes proposed from each case study are given in a separate column in the CPGF.

7.2 Case 1 - Mozal 1

The Mozal 1 project is considered to be a very successful project. Multiple countries and companies participated in a region unknown for industrial activity and on its completion the project was presented with the PMI 2001 International Project of the Year award [Mozal Aluminium Smelter, 2001].

The following paragraphs provide a short overview of the project, the NGT panel with their respective roles in terms of the project and the results applied to the study.

7.2.1 Project overview

It would be difficult to overstate the importance of the Mozal project's accomplishments in Mozambique - a country still recovering from two decades of civil war. Not only is it the largest industrial project ever undertaken in this southern African country, it was completed six months ahead of schedule and approximately US\$ 150 million under the originally approved budget of US\$ 1 billion. And this after having to cope with delays caused by lack of public infrastructure, poor geotechnical conditions and a bout of torrential flooding in February of 2000.

The smelter is built about 17 kilometres outside the capital city, Maputo, on a site measuring 1.3 million square metres – equivalent to 340 football fields (Figure 7.1). Its initial production capacity was 245,000 tonnes of aluminium per year, and the first aluminium was produced in June 2000, a mere 25 months after the project had begun. This is thought to be a world record for a smelter of this size [Mozal, 2005].

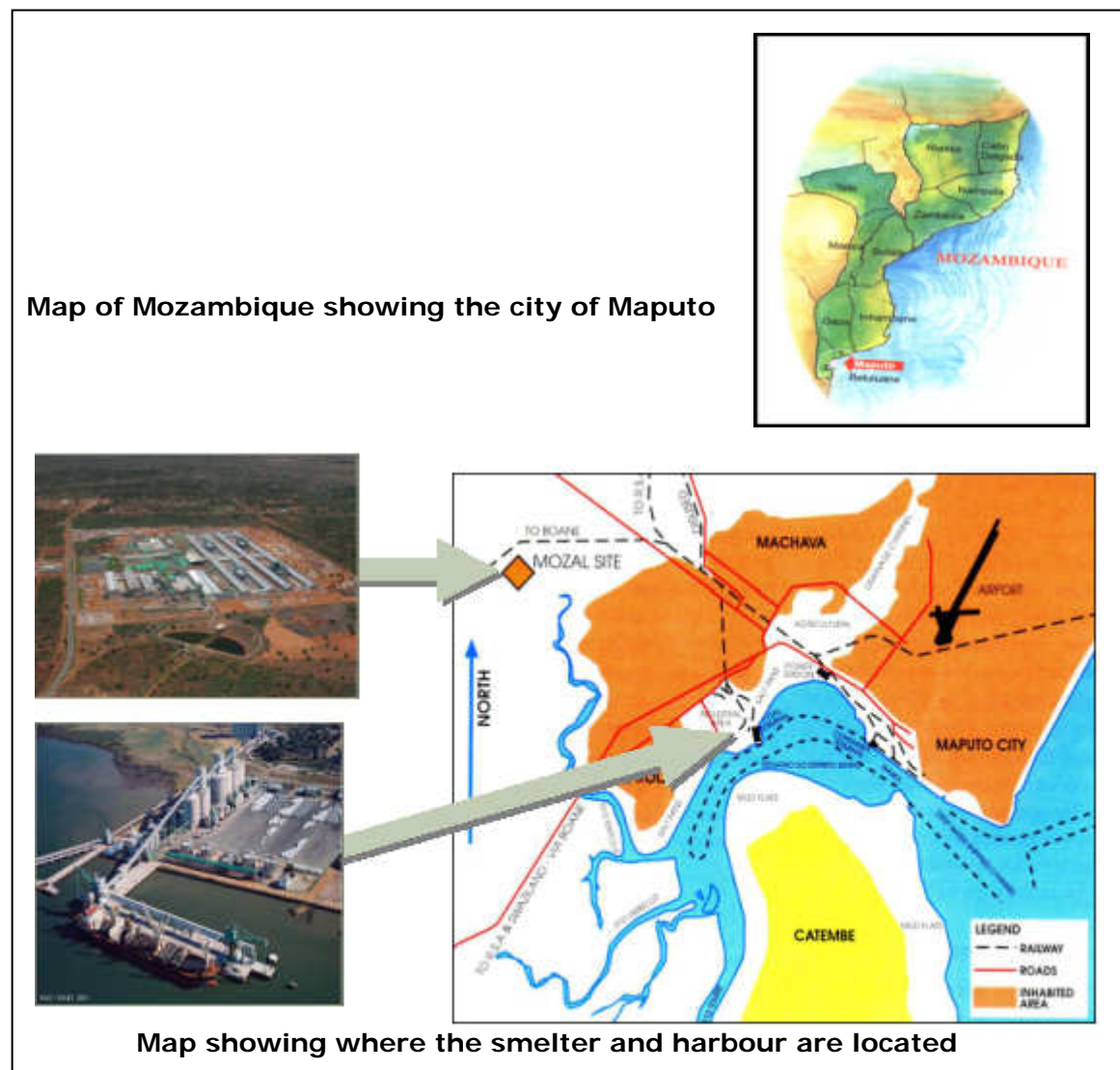


Figure 7.1: Project location

The project was managed by an SNC Lavalin / Murray & Roberts consortium for the shareholders, comprising BHP Billiton (47%), Mitsubishi (25%), IDC (24%) and the Government of Mozambique (4%).



i) Construction

From mid-1998, virgin bush started to make way for massive earthwork and piling machinery and clearing the land for the foundations of Mozal began. A total 25 thousand tons of structural steel formed a skeleton that would be covered by 208 thousand square metres of aluminium cladding. Thereafter the installation of mechanical, electrical and instrumentation equipment followed.

During the course of 1999, a total of 235 thousand cubic metres of concrete were poured and 25 kilometres of roads were laid.

At the same time, construction of the new berth at the port of Matola was taking place, including a new access road and bridge that now connects to the Maputo corridor.

ii) Creating Jobs

Manpower levels on site for both phases of the project, including contractors and management staff, reached a total of 15,000 people, 65% of whom were Mozambicans - confirming that Mozambique was ready to compete at international level. Over 10,000 people were trained during construction at a cost of over 8 million US dollars.

iii) Partnerships

For a large capital project like Mozal, the collaboration and partnering with utility suppliers is critical. Due to its geographical location, Mozal had to establish formal partnerships across country borders. This was done by forming a separate entity in the form of MOTRACO - a publicly owned electricity company comprising Mozambique (EDM), South Africa (Eskom) and Swaziland (SEB) - to deliver Mozal's power requirements.

iv) *Economic Impact*

Rising from many years of civil war, Mozambique was in dire need of progressive economic activity. With a crippled economy, Mozal provided a major injection to country's economy.

Within the country, Mozal's share of contribution to GDP was calculated at 3.2% in 2003, whilst overall contribution to the country's economic growth (of 15%) was 5%. With Mozal, Mozambique export earnings increased from US\$ 220m to around US\$ 1 billion, with exports rising in excess of US\$ 811 million in foreign exchange earnings. The net positive impact on external trade reached a steady state of US\$ 400 million. Other significant economic impacts were:

- Direct impact of 49% on manufacturing industry gross output
- Net positive impact on balance of payments of around \$100 million at steady state
- Direct employment of 1150 people, 1600 contractors and indirect job creation estimated at 10,000 jobs.

Due to its magnitude and its being 'first-of a kind' in Mozambique, the impact of the project should be viewed in a broader context.

v) *Quality of Life*

It is commonly believed that the impact the project has had on the region is remarkable. The quality of life has been improved on virtually every level and in such a way that the advantages will continue to be felt long after the project's completion. Over 5,500 Mozambicans were trained in construction skills and all were issued certificates to help them obtain construction work on future projects. To meet the project's supply needs, transport infrastructure in the area had to be improved and increased. A new three-km access road and a bridge over the Matola River were built and inaugurated in January 2000. In addition, a new aluminium quay, a raw material handling and storage facility,



and a finished-product export yard were opened at the Matola port in March that same year.

vi) *Health and Safety*

The project team also distinguished itself with an excellent occupational health and safety record. The overall 'lost time through injury' rate was only 1.75 – a world-class achievement and one made even more remarkable when contrasted with the South African national average of 10.0. The Mozal Environmental Management plan, which was developed to World Bank standards, implemented numerous programs to preserve and protect the environment. All environmental studies and findings were made fully public and public feedback meetings on environmental performance at the site were held every six months.

One of the main criticisms of the project was the handling of HIV and Aids issues. Initially the impact of HIV and Aids was under estimated – when added to the (extremely high) occurrence of malaria, the effects were mostly fatal. Eventually a special malaria unit was opened, which has diagnosed and treated over 6,600 cases.

Not surprisingly, Mozal has become a showpiece for investment possibilities in Mozambique and the major focus of attention for neighbouring countries and visiting dignitaries. Many foreign guests have toured the site, including 14 heads of the Southern African Development Community (SADC) states, Nelson Mandela, Queen Elizabeth II and several business leaders from around the world.

7.2.2 Project governance

Given the success and high profile enjoyed by the Mozal 1 project, it was selected for review and testing of the contents and validity of the CPGF. The following paragraphs list the NGT participants and their roles on the project, the review and assessment of the project governance against CPGF and a



few general comments and observations made during the NGT session by the various participants.

i) *NGT profile for Mozal 1 case study*

According to Yin (2003) the validity of a case study is very much dependent on the quality and multiplicity of case information sources. For Mozal 1, the key participants for the investor, contractors and government were involved. Back-up information as well as proof of documentation and claims are available through the BHP Billiton Documentation Centre and can be accessed upon motivation by the author. Further validation was done through a search on the Probe International website (www.probeinternational.com) to determine whether there were any investigations or legal actions on the project. Nothing was found. The structure of information is illustrated below in Figure 7.2.

The participants on the NGT session for the Mozal 1 case study were senior members of the project sponsor and contracting parties. In addition to the researcher, who acted as facilitator, the team included the following people (listed with the positions they held during the project):

- Mr Rob Barbour – Project Director and chairman of the steering committee (BHP Billiton)
- Mr Peter Cowie – In-country Manager responsible for government / community liaison (BHP Billiton)
- Mr Brett Hegger - Project Manager for SNC Lavalin / Murray and Roberts Joint Venture
- Mr Terrence McGowan – Senior Project Consultant to large capital projects (Independent)
- Mr H.E. Dombo – Head of Industrial Free Zones & Special Projects Division, Investment Promotion Centre of Mozambique
- Dr Domingo Chiconela – Quality and Environmental Control for Mozambique Government

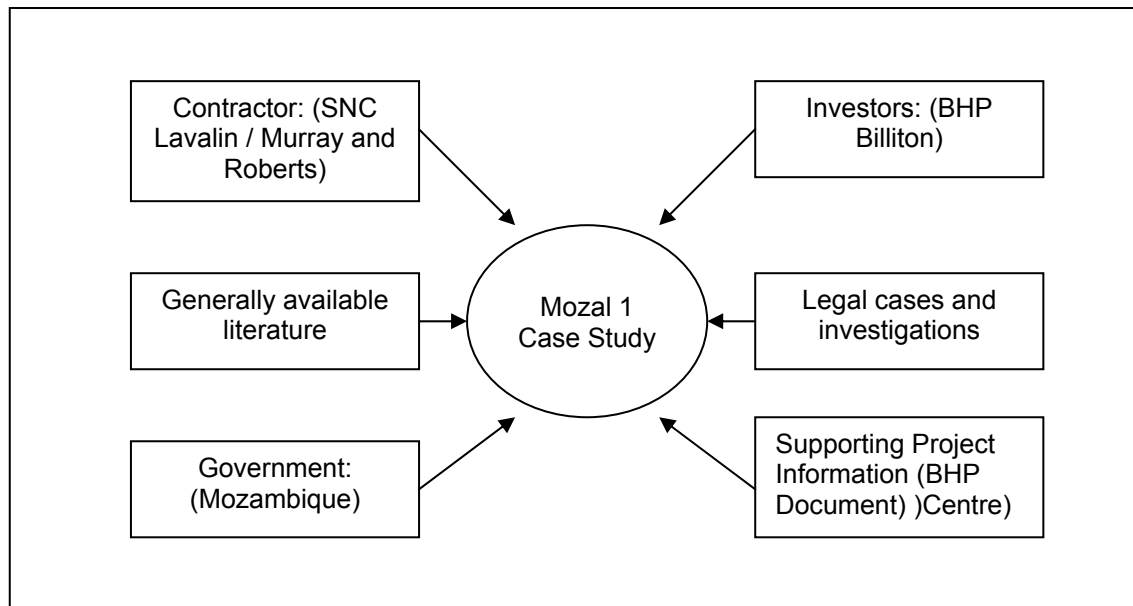


Figure 7.2: Case study sources of information

The purpose and contents of the NGT session were emailed to each participant one week before the session to allow for preparation.

Not all parties were able to attend the session and it was decided to proceed on the scheduled NGT date and follow-up with structured interviews with those that could not attend.

The NGT session commenced at 14h00 and closed at 18h00 on 20 March 2007. The session was attended by all parties except the Mozambican delegation of Mr Dombo and Dr Chiconela. The venue was the conference room at the Graduate School of Technology Management, University of Pretoria. The proceedings were recorded digitally.

The outcome of the NGT session was used to facilitate structured interviews with the two government delegates. The structured interviews with Mr Dombo and Dr Chiconela were conducted at the Polana Hotel, Maputo on 1 and 2 November 2007, respectively.



ii) *Project Governance at Mozal 1 against the CPGF*

After discussing the background of the Mozal project and again emphasising the objectives of the NGT process, the CPGF was projected against an overhead screen and an additional column inserted to indicate the comments and results of the discussions. By viewing the insertions and changes, the NGT participants could immediately indicate their approval of the changes. All changes and additions are indicated in ***italic bold***. Where no comments are given and the phrases are merely copied in *italic*, the NGT panel agreed with the phrases as documented.

The result of the session is provided in Table 7.1 below, with special attention drawn to the last column.

Table 7.1: Concept project governance framework

	P. Project Governance	
	A. Project Steering Committee	A. Project Steering Committee Mozal 1
1. Composition	<p>1. Core Competencies</p> <ul style="list-style-type: none"> • Project finance and cost management • Business / project alignment • Front-end-Loading management • Crises response • Industry knowledge • International experience • Leadership • Strategic alignment capability • Contract management capabilities <p>2. Steering Committee Size Determined by project type, complexity and magnitude</p> <p>3. Member Mix Comprise members with a direct interest as well indirect stakeholder representatives i.e. socio-economic and environmental</p> <p>4. Chairperson Independent The chairperson should be independent from any project stakeholders</p>	<p>1. Core Competencies</p> <ul style="list-style-type: none"> • Project finance • Project control management (Cost / Time) • Risk assessment and contingency management • Business / project alignment • Upfront management of the project and scope robustness • Crises response, including conflict management • Industry knowledge • International experience • Leadership • Strategic alignment capability • Contract management capabilities • Stakeholder management • Political influence • Country and local knowledge • 'Project Champion' • Local legal requirements <p>2. Steering Committee Size Determined by project type, complexity and magnitude Sub-committees - purchasing, finance, audit, social, etc., reporting to Steering Committee</p> <p>3. Member Mix Comprise members with a direct interest as well as indirect stakeholder representatives i.e. socio-economic and environmental (establish appropriate forums to deal with 'other' stakeholders)</p> <p>4. Chairperson Independent The Chairperson should be independent from any project stakeholders (for public projects not private projects - see note 1)</p>
2. Responsibility	<p>1. Committee Accountability</p> <ul style="list-style-type: none"> • Overall accountability • Bridging the gap between project and 	<p>1. Committee Accountability</p> <ul style="list-style-type: none"> • Project promotion and stakeholder enablement • Obtaining finance

	<p>immediate external and statutory environment</p> <p>2. Charter Development and adherence to the project charter</p>	<ul style="list-style-type: none"> • Establish levels of authority • Overall accountability • Bridging gap between project and immediate external and statutory environment. <p>Team development</p> <p>2. Charter Development and adherence to project charter, including project policies</p>
<p>3. Audit Committee to Board of Directors (replace Board of Directors with Sponsor Boards)</p>	<p>1. Levels of Independence The project audit committee should be independent, with the steering committee excluded from the audit committee</p> <p>2. Project Literacy The Audit Committee should have extensive project experience on all aspect of large capital projects</p>	<p>1. Levels of Independence The project audit committee should be independent, with the steering committee excluded from the audit committee</p> <p>2. Project Literacy The auditors should have extensive project experience on all aspects of large capital projects</p> <p>3. Scope of the auditors to be vetted by the steering committee</p>
	<p>B. Cost and Benefit Management</p>	<p>B. Project Finance and Controls</p>
<p>1. Financial Reporting Responsibility</p>	<p>1. Steering Committee Report against approved budget</p> <p>2. Project Governance Charter Report on adherence to the charter</p>	<p>1. Project Governance Charter Report on adherence to the charter and key performance indicators</p> <p>2. Steering Committee Establish reporting structure, priorities and format</p> <p>3. Report against approved budget</p>
<p>2. Financial Disclosures</p>	<p>1. Project Finance For any financial activities outside the GAAP requirements, full disclosure will be required</p> <p>2. Reports Project financial status to be reported on a quarterly basis</p> <p>3. Corrections and Adjustments</p>	<p>1. Project Finance For any financial activities outside the GAAP requirements, full disclosure will be required</p> <p>2. Reports Project financial status to be reported on a quarterly basis</p> <p>3. Corrections and Adjustments To be reported quarterly</p>

	To be reported quarterly	
3. Internal Controls	<p>1. Risk Management Process Formal risk management process should be in place</p> <p>2. Risk Management The steering committee must actively ensure that proper risk identification, quantification and mitigation planning is done on the project, but covering all aspects of the project, not only financial.</p> <p>3. Risk Disclosure Disclosures must be made about all the risks on the project during the total project life-cycle.</p> <p>4. Risk Certification Requirement for monthly certification of disclosure controls and procedures by the chairperson of the steering committee.</p>	<p>1. <i>Risk Management Process</i> <i>Formal risk management process should be in place</i></p> <p>2. <i>Risk Management</i> <i>The steering committee must actively ensure that that proper risk identification, quantification and mitigation planning is done on the project, but covering all aspects of the project, not only financial and cost.</i> <i>Impose risk management to be done by all stakeholders.</i></p> <p>3. <i>Risk Disclosure</i> <i>Disclosures must be made and prioritised about all the risks on the project during the total project life-cycle.</i></p> <p>4. <i>Risk Certification</i> <i>Requirement for monthly certification of disclosure controls and procedures by the Chairperson of the steering committee.</i></p>
	C. Project Reviews and Audits	C. Project Reviews and External Audits
1. Independence	<p>1. Objectivity Independence and objectivity of the project auditors and reviewers must be ensured.</p> <p>2. Scope Project reviews and audits should not be confined to adherence to in-house methodologies and practices, but should include items that the review / audit deems necessary to protect stakeholder interests.</p> <p>3. Rotation Auditors should have no direct or indirect interest in the project or in the</p>	<p>1. <i>Objectivity</i> <i>Independence and objectivity of the project auditors and reviewers must be ensured.</i></p> <p>2. <i>Scope</i> <i>Project reviews and audits should not be confined to adherence to in-house methodologies and practices, but should include items that the review / audit deems necessary to protect stakeholder interests.</i></p> <p>3. <i>Rotation</i> <i>Auditors should have no direct or indirect interest in the project or in the contractors / suppliers involved</i></p>



	contractors / suppliers involved with the project.	<i>with the project.</i>
2. Interaction with Companies	<p>1. Internal Charter The internal charter should include the approach towards the auditing of project management, the adherence to project methodologies, processes and agreed practices and the project team's functioning.</p> <p>2. Communication As with corporate governance, it requires mandatory communication between the external auditor and the audit committee.</p>	<p>1. <i>Internal Charter</i> <i>The internal charter should include the approach towards the auditing of project management, the adherence to project methodologies, processes and agreed practices and the project team's functioning.</i></p> <p>2. <i>Communication</i> <i>As with corporate governance, it requires mandatory communication between the external auditor and the audit committee.</i></p>
3. New Attestation Report	<p>1. Report External auditor must issue an attestation report on the project's internal control report.</p>	<p>1. <i>Report</i> <i>External auditor must issue an attestation report on the project's internal control report.</i></p>
4. Disclosure	<p>1. Non-audit services As with corporate governance, it is required that separate disclosures of the amounts paid to the external auditor for non-audit services is provided, together with a detailed description of the nature of services. ?</p> <p>2. Fees Requires disclosure of fees paid to a company's principal external auditor since project commencement.</p>	<p>1. <i>Non-audit services</i> <i>As with corporate governance, it is required that separate disclosures of the amounts paid to the external auditor for non-audit services is provided, together with a detailed description of the nature of services.</i> ?</p> <p>2. <i>Fees</i> <i>Requires disclosure of fees paid to a company's principal external auditor since project commencement.</i></p>
	D. Ethical, responsible conduct and conflict of interest	D. Ethical, responsible conduct and conflict of interest
1. Code	<p>1. Standards A code of ethics should be established and signed by each member of the steering committee. The</p>	<p>1. <i>Standards</i> <i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a</i></p>

	<p>code should include (as a minimum):</p> <ul style="list-style-type: none"> • Environment • Social aspects • Socio-economic aspects • Conflict of interest guidelines <p>2. Adherence Adherence to the code of ethics should be disclosed and reported on a monthly basis.</p> <p>3. Disclosure Code should be made publicly available and any changes to the code or waivers from the code must be disclosed.</p>	<p><i>minimum):</i></p> <ul style="list-style-type: none"> • <i>Environment</i> • <i>Social aspects</i> • <i>Socio-economic aspects</i> • <i>Conflict of interest guidelines</i> <p><i>2. Adherence</i> <i>Adherence to the code of ethics should be disclosed - and reported on a monthly basis.</i></p> <p><i>3. Disclosure</i> <i>Code should be made publicly available and any changes to the code or waivers from the code must be disclosed.</i></p>
2. Compensation	<p>1. Performance Performance-related elements of compensation should represent a substantial portion of the total compensation package.</p>	<p><i>1. Performance</i> <i>Performance-related elements of compensation should represent a substantial portion of the total compensation package. (See Note 2).</i></p>
3. SHE	<p>1. Adherence SHE requirements should be to international standard as a minimum and supplemented by host country requirements.</p>	<p><i>1. Adherence</i> <i>SHE requirements must be set and formalised, taking into consideration world best practices and host country conditions and legislation. (See Note 3).</i></p>
4. Social	<p>1. Adherence Social and socio-economic considerations should be to international standard as a minimum and supplemented by host country requirements.</p>	<p><i>1. Adherence</i> <i>Social and socio-economic considerations must be set and formalised, taking into consideration world best practices and host country conditions and legislation.</i></p>

Notes to input:

Note 1 - For privately funded projects, the chairperson will almost always be from the main sponsoring entity. Independence of the chairperson to the steering committee will not be likely in privately funded projects.



Note 2 - It was strongly believed by all participants that a significant portion of remuneration should be performance based.

Note 3 - One of the shortcomings of the Mozal 1 project was the initial lack of planning for HIV / Aids education and treatment. It was strongly advised that these issues be formally addressed, in accordance with international and local best practices.

With respect to the formal and / or informal application of project governance on the Mozal 1 project, nearly all aspects were addressed, but mostly done informally. The only items addressed formally were:

- Auditing procedures and functioning of the audit committee
- All aspects related to projects control.

All other governance items were attended to, but were not formalised during the project initiation stages.

On the question of which items in the CPGF are the most important and how the items should be ranked, the unanimous response was that this is impossible to say and that prioritisation will differ depending on the type and location of the project.

Apart from addressing the specific NGT protocol questions, some significant comments about project governance in general were made. These items are discussed in the next paragraph.

iii) General observations from NGT participants

The NGT session on the Mozal project took longer than expected and triggered some important observations from the participants. The most important observations that could have an impact on formalising a final PGF are listed below:

- The NGT panel agreed that a governance environment for the project manager to function within is usually lacking on LCPs. Thus, the necessity for a formal approach towards project governance cannot be



- disputed and current theories and practices do not cater for these practices.
- Although the Mozal 1 project was a success, project governance was not applied formally in the format proposed in the CPGF. However, most of the items were addressed because of the high level of experience and skill of the senior managers on the project. It was unanimously agreed that a formal project governance framework and guideline would have helped and would have shortened the time spent in addressing the most important items.
 - An item that was discussed at length was the core competency of ‘scope definition’. It was stated that the proper and accurate definition of scope, especially technical scope, should not be hastened. In the case of Mozal 1, the smelter technology was proven and defined in detail, which was a major attribute in successful execution.
 - The most important factor on any project is the quality and capability of the people working on the project. The success of the Mozal 1 project can be attributed to the people who lived the informal ethical and responsible conduct of the project. With the correct mindset and attitude many of the formalities will not be necessary, but unfortunately the luxury of employing the A-team does not always prevail, and for this reason a formal project governance framework is required.

iv) *General comments from structured interviews*

The structured interviews with the two Mozambican delegates followed the same protocol as the NGT session with the only provision being that the outcome of the NGT session was used to facilitate the interviews. The following comments were provided by the interviewees:

- The Mozal 1 management structure and steering committee are considered to be the “model” against which Mozambique measures itself when pursuing future projects. From a government perspective proper representation should be evident from all the relevant departments, especially Labour, Environment, Trade and Industry, Finance, Health



and Foreign Affairs. Day-to-day matters should be handled in work groups with only selective report back to the steering committee.

- Project Charter - important, although common understanding prevailed at Mozal 1.
- Project Reviews and Audits – more of a concern to the investor.
- The Mozambican government holds less than 5% share in the venture and major tax incentives that were granted. The Mozambican government was desperate to attract the investment and, with hindsight, ‘gave too much away’. A recommendation was that a PGF should consider a stipulation of a minimum 10% shareholding for the host country where projects involve the developed world investing in developing countries.
- A major concern was raised regarding sustainable development. Due to contractual supply agreements Mozal cannot supply product to local downstream companies resulting in their having to import steel at high prices. This caused a dampening effect on the sustainable development of new downstream companies in Mozambique. A PGF should include specific provisions for sustainable development.

In summary, the NGT panel and interviewees on the Mozal 1 project unanimously agreed that a formal framework for project governance would greatly assist the senior management and project steering committee on large capital projects to create an environment for effective project management.

Information received during the interviews confirmed two important aspects of the research:

- The structure and content of the proposed CPGF are, to a large extent, sufficient for application to large capital projects. Adjustments were made to some wording and the different needs between private and public investments with respect to board representation, but in general there where overwhelming support from all participants for the current CPGF outline.
- From the response and feedback received is became clear that a formal PGF could greatly assist is formalising project governance and that such



a formal framework is missing in project literature, theory and even legislation.

Clearing the comments received during the Mozal I case study preparations were made for the second primary case study, namely the Lesotho Highlands Water Project.

7.3 Lesotho Highlands Water Project (LHWP)

The LHWP is a good example of a cross-border LCP. The project was initiated in 1986 under difficult and hostile conditions between the RSA and Lesotho. During this time, SA was still under Apartheid Rule, with strong international sanctions imposed on the country, while Lesotho found itself under military rule. While both countries were subjected to the wrath of the international community, the governments of SA and Lesotho were also at political loggerhead.

Despite these conditions, the project was initiated and governed by a Treaty (Treaty, 1986) compiled by the two governments.

The following paragraphs provide an overview of the project history, the life-cycle and specifically the application of project governance principles, as well as the impact of the Treaty on promoting project governance.

7.3.1 Project history and life-cycle

i) Project overview

The Orange (Sengu) River rises in the mountainous region of Lesotho, traversing in a generally westerly direction nearly 2000 km to the Atlantic Ocean and being joined half-way by the Vaal River coming in from the north-east [LHWP, 2005].

Although the mountainous region of Lesotho constitutes only 5% of the total catchment area of the Orange River, it provides about 50% of the total



catchment run-off. The water is characterised by good chemical quality and low sediment content.

The topography of the region allows for the possibility of developing a hydropower generation facility in Lesotho in conjunction with the provision of water supplies to the RSA (Figure 7.3).

In order to exploit this huge potential in water conservation and power generation, the LHWP was initiated more than 50 years ago.

ii) Project objectives

The project was launched with the following clear objectives:

- To provide revenue to Lesotho by transferring water from the catchment area of the Orange River in Lesotho to meet the growing demand for water in the RSA's major industrial and population centres.
- To generate hydroelectric power for Lesotho in conjunction with the water transfer.
- To promote the general development of the remote and under-developed mountain regions of Lesotho.
- To provide the opportunity to undertake ancillary developments, such as the provision of water for irrigation and potable water supply.



Figure 7.3: LHWP

iii) *Lesotho's water resources*

Water is a resource that Lesotho has in relative abundance and water resources far exceed possible future requirements, even allowing for possible future irrigation projects and for general development and improvement of living standards. The sustainability of the water resource was well researched and documented.

The average total available water in Lesotho is about 150m³/s and current national consumption is not more than 2m³/s.

Estimates of the natural mean annual run-off at the sites of the main project are provided below in Table 7.2 (Water availability).

Table 7.2: Water availability

Dam	River	Catchments Area km ²	Mean Annual km ³	Run-Off m ³ /s
Katse	Malibamats'o	1 860	656	20.8
Mohale	Senqunyane	938	367	11,6
Mashai	Orange / Sengu	7 977	1 569	49.7
Tsoelike	Orange / Sengu	10 375	1 891	59.9

The Katse and Mohale dams formed part of the first phase and, as can be seen from the run-off figures, the potential for water capacity increase during Phase II is enormous relative to the previous capacity.

iv) Preliminary studies

The initial survey of the water potential of Lesotho was first introduced by the then British High Commissioner to Lesotho, Sir Evelyn Baring, in the 1950s. Ninham Shand of South Africa was appointed as consulting engineer to study the potential of harnessing the water from the Maluti Mountains for the economic benefit of the Basotho people.

A study of the Oxbow project was undertaken for the Government of Lesotho from 1967 to 1968 (Ninham Shand and Partners, 1968 from LHWP, 2005). The study envisaged storage reservoirs at Oxbow and Pelaneng on the Malibamats'o River with tunnels running northward to convey water to South Africa. In 1971 the Government of Lesotho (GOL) commissioned a further study (Binnie & Partners, 1971, from LHWP, 2005), which concluded that a 94m high Pelaneng dam could be constructed to divert a continuous supply of 8m³/s to South Africa.

In 1974 the RSA appointed Henry Olivier and Associates to carry out studies in connection with water and power projects in neighbouring countries. In a report submitted to the RSA in 1977 (Henry Olivier and Associates, 1977, from LHWP, 2005), ten alternative layouts for diversion of water from Lesotho to the Vaal basin, and for possible hydroelectric projects associated with such projects, were described.



v) *Joint preliminary feasibility study*

A joint preliminary feasibility study of the project was carried out in 1978, with each government appointing its own consultants to assist in the study. A preliminary feasibility report (Olivier and Binnie, 1979, from LHWP, 2005) concluded that a constant flow of some 35m³/s could be transferred to South Africa using a phased construction of five reservoirs at Oxbow, Pelaneng, Soai, Polihali and Taung on the Malibamats'o and Senqu (Orange) Rivers plus approximately 102km of tunnel to transfer water to SA. The generation of hydroelectric power in Lesotho was an integral part of the project proposal.

vi) *Joint detailed feasibility study*

The detailed feasibility studies, to suit the requirements of the two governments, were carried out from August 1983 to December 1985 by Lahmeyer MacDonald Consortium (comprising Lahmeyer International of Germany and Sir Malcolm Macdonald of the UK) for GOL and Olivier Shand Consortium (comprising Henry Olivier and Ninham Shand Inc.) for RSA. The GOL's interests in the technical review field were looked after by the LHWP unit who were assisted by TAMS Pty (Ltd) of the USA. The LHWP unit and TAMS together formed the Study Supervisor for GOL on the feasibility study from 1983 to 1986.

The main objectives of the feasibility study were:

- Selection of the optimal scheme layout acceptable to both governments.
- Demonstrating that the project would be technically, socially, legally, environmentally, economically and financially viable.
- Carrying out of studies, designs and costing that would be used for purposes of preparation of tender designs and associated investigations.

The feasibility study established the economic viability of the project to deliver about 70m³/s of water from the highlands of Lesotho to the Vaal River system by the year 2020. The project was to be developed in a number of phases and



the project was found to be the cheapest option compared to other competing schemes in RSA.

Hydroelectric power was to be generated in Lesotho, which offered Lesotho the opportunity for a substantial element of independence in terms of electricity supplies.

The study confirmed that there were no technical, social, environmental, legal, economic or financial considerations that would invalidate the conclusions that the recommended project would provide considerable benefits for both countries. This observation prompted no further detailed investigation into these aspects, a decision that resulted in some legal repercussions at a later stage.

The recommended feasibility study Phase 1A project components were as follows:

- Main Dam and appurtenant works at Katse
- 48 km long Transfer Tunnel from Ha Rafanyane to Sentelina
- Sentelina Head Pond
- Underground Hydropower Plant
- Tlhaka Tail Pond
- Delivery Tunnel
- Infrastructure facilities, including access roads, construction camps, construction-power, communication and other services.

An independent 3-member international panel of engineering experts was engaged by Lesotho from January 1984 to February 1986 to review the feasibility study work. During this period, the panel made three visits to Lesotho and to the project sites.

vii) LHWP implementation

The signing of the Lesotho Highlands Water Project Treaty by the governments of Lesotho and of the RSA on the 24th October 1986 (Treaty, 1986) established the Joint Permanent Technical Commission (JPTC) to



represent the two countries in the implementation and operation of the LHWP. This Treaty (1986) effectively spelled out governance arrangements between the two countries and will be discussed in more detail in later paragraphs. This was followed by detailed engineering studies and services prior to the award of main works, which were scheduled to commence in early 1990. The treaty commits RSA and Lesotho to implementation of Phase 1A and 1B of the project and provides the options for development of additional phases in the future.

The first phase (1A) of the proposed four phased scheme, comprising: a giant dam at Katse in the central Maluti mountains, an 82 km transfer and delivery tunnel system reaching to the Ash River across the border in RSA, the 'Muela hydropower station and associated structures was commissioned in 1998. This has now been completed and an average 17m³/sec of water is now being delivered to RSA. The total cost of this phase was R11 billion.

Phase 1B, comprising the Mohale dam, a 145 meter high concrete faced rockfill dam on the Senqunyane River some 40 km south-west of Katse, a 32 km long transfer tunnel between Mohale and Katse reservoirs, a 19m high concrete diversion weir on the Matsoku River, and a 5.6 km long tunnel, are under construction. The Mohale reservoir and Matsoku diversion added 9.5 and 2.2 m³/sec to the yield of Katse. The total cost of this phase was estimated at R6.5 billion.

viii) Main construction and contracting parties during Phase I of the LHWP

Various contractors were deployed during the Phase 1A and 1B of the project.

With this project it is important to list the most prominent contracting parties because of the fact that some irregularities took place during the project that resulted in various court cases for bribery and prominent companies being suspended and blacklisted by the World Bank.

During Phase IA, the following main construction activities took place:



- Katse dam
- 45 km Transfer Tunnel
- 'Muela Hydropower Station and Tail Pond
- 15 km Delivery Tunnel –south
- 22 km Delivery Tunnel –north.

The Katse Dam was built by the Highlands Water Venture (HWV) consortium, comprising Hochtief (Germany), Impreglio, Bouygues (France), Stirling International (UK), Kier International (UK), Concor (South Africa) and Group Five (South Africa). The Lesotho Highlands Project Contractors, which built the tunnels in Lesotho, was made up of Spie Batinolles, Balfour Beatty (UK), Compenon Bernard (France), LTA (South Africa), Acres (Canada) and ED Zublin (Germany).

For the building of the 'Muela Hydropower station and the Tailpond dam, the Lahmeyer MacDonald Consortium (LMC), comprising Lahmeyer (Germany) and Mott MacDonald of the United Kingdom, were appointed. They also supervised the two delivery tunnels.

The two transfer tunnels were contracted to the Lesotho Highlands Project Contractors consortium comprising Spie Batignolle (France), Balfour Beatty (UK) LTA (South Africa), Campenon Bernard (France) and Ed Zublin (Germany). The electrical and mechanical work was subcontracted to Neyrpic (France) and SDEM (SA). Deutsche Babcock (SA) supplied steel liners for the under-river crossing, while Krohne Altometer of the Netherlands supplied flow metres in the delivery tunnel south.

vi) *Main construction and contracting parties during Phase II of the LHWP*

During Phase II, the following main construction activities took place:

- Mohale Dam
- Mphale / Katse interconnecting tunnel
- Matsoku Weir and Tunnel, and
- Mohale Access roads



For the Mohale Dam, comprising a 145m high concrete face rock-fill embankment, the Mohale Consultants Group (MCG) - comprising SMEC (Snowy Mountains Engineering Corp) of Australia, BKS Inc, Melis & Du Plessis and Stewart Scott (SA), Harza Engineering (USA) and Nippon Koei Co (Japan) - were contracted.

MCG supervised Mohale Dam Contractors, a joint venture of Impregilo of Italy, the lead contractor, with Hochtief (Germany) and Concor (South Africa). Concor Engineering and ATB Joint Venture were sub-contracted to undertake mechanical and engineering activities.

For the 32km long Mohale Interconnecting Tunnel to Katse, the Lesotho Highlands Tunnel Partnership (LHTP) was the design and supervising consultant. The team comprised: Lahmeyer (Germany), Mott Macdonald (UK) and Consult 4 of RSA (comprising Ninham Shand, VKE (Van Niekerk Klyn and Edwards), Keeve Steyn and SRK (Steffen Robertson and Kirsten) and Knight Piesold). The contractors comprised a joint venture of Hochtief (Germany), contract leader Impregilo (Italy) and Concor (SA). Concor Engineering was sub-contracted to the mechanical and engineering activities.

The Matsoku Weir and Tunnel were designed and supervised by consultants under the Matsoku Diversion Partnership, whose composition was Consult 4 (SA) comprising: Ninham Shand, VKE Engineers, SRK Consulting and Knight Piesold in a joint venture with the Lescon/ FMA of Lesotho. The construction team, Matsoku Civil Contractors (MCC) comprised a joint venture of Concor (RSA), Hochtief (Germany) as contract leader, and Impregilo (Italy). Concor Engineering of SA and B&W Electrical were awarded sub-contracts in the mechanical and electrical fields respectively.

Finally, the Mohale Access roads were designed and supervised by GIBB (Lesotho) / BS Bergman (RSA) and contracted to LTA / Group 5 Joint Venture.



7.3.2 Project governance

The LHWP was a true cross-border project with the approach that no taxpayers' money, or any other form of subsidisation, should be used. The intention was that end-users should eventually fund the project and that objective was, to a large extent, achieved with limited funding made available by the World Bank during Phase 1B. The LHWP can be regarded as successful in terms of delivery on time, to pre-established capacity and by end April 2007 the cost over expenditure was an 'acceptable' 10% overrun over the 20 year project life.

As opposed to the Mozal 1 project, much time was spent on establishing bi-lateral and governance policies and agreements. The following paragraphs provide not only a review with respect to the CPGF, but also an explanation of how governance was addressed during project initiation and managed throughout the project life-cycle.

i) NGT profile for LHWP Phase 1A/B case study

As with the Mozal 1 case study, an attempt was made to obtain information from multiple sources. Apart from representation from the various stakeholders, general literature was searched and a listing of investigation and court cases was obtained through Probe International and actual project documentation was viewed (see Figure 7.4). The only stakeholders not present were the contractors, who were hesitant to participate in anticipation of future work on Phase 2.

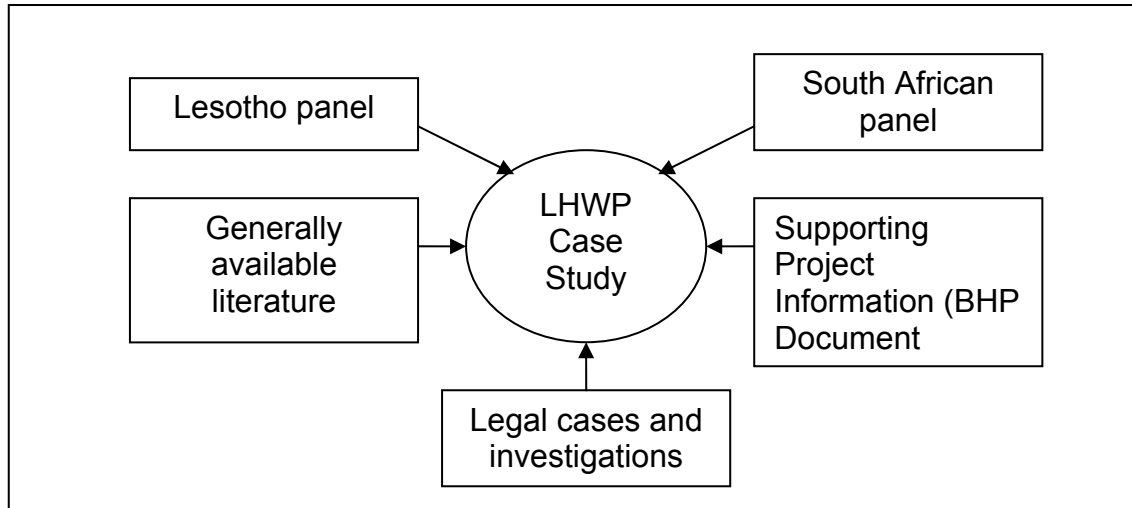


Figure 7.4: LHWP information sources

The NGT panel that participated comprised of senior managers and directors of various stakeholders of the project. The NGT panel showed great interest in this exercise, with the acting CEO of the LHWD attending the whole session. In addition to the researcher, who acted as facilitator, the participants included the following people (listed together with the positions they held during the project):

- Mr Masilo Phakoe – acting Chief Executive Officer for LHDA
- Mr Pieter Swart – Financial Controller for LHWC, RSA Delegation. Mr Swart has been involved with the project for 16 years.
- Mr Leon Tromp – Alternate Delegate for LHWC, RSA Delegation. Mr Tromp has been involved with the project for 22 years and is the author of two sections of the Treaty. Mr Tromp oversaw the technical developments at senior level.
- Mr B.T. Khatibe – CFO for LHWC, Lesotho Delegation.
- Mr Charles Mwakalumbwa – Company Secretary, LHWC.

The purpose and contents of the NGT session were emailed to each participant one week before the session to allow for preparation.

The NGT session commenced at 09h00 and closed at 13h00 on 2 April 2007. The venue was the conference room at the LHWC Board Room, Standard

Bank Building, Maseru, Lesotho. Due to sensitivity, the proceedings were not digitally recorded.

ii) *Project governance at LHWP Phase 1A/B*

After discussing the background of the LHWP project, and again emphasising the objectives of the NGT process, Mr Tromp suggested an overview of how governance was established on the project in 1986, how it was amended in 1999, and the lessons learned. Afterwards the CPGF was projected against an overhead screen and an additional column inserted to indicate the comments and results of the discussions. By viewing the insertions and changes, the NGT participants could immediately indicate their approval of the changes. All changes and additions are indicated in ***italic bold***. Where no comments are given and the phrases are merely copied in *italic*, the NGT panel agreed with the phrases as documented.

Formulating governance on the LHWP

Due to the complexity of cross-border projects, and especially the difficult political conditions RSA and Lesotho found themselves in during the 1980s, much effort went into compiling the governance principles. It is not clear whether the hostility between the two countries benefited or hampered the development of a governance document in the form of the Treaty (1986). Nevertheless, the end result was a well documented agreement intended to be valid for 50 years. The drafting of the Treaty took approximately 18 months and contains a clause for review after 12 years (1999).

The Treaty clearly spells out the formal relationships between the various stakeholders as well as key responsibilities and accountabilities. Although it is not the intention of this dissertation to review the complete document, attention should be given to the formal organisational structure and reporting lines. The function of the structure had limitations and was about the only aspect of the Treaty that was substantially changed in 1999. The original structure had a negative impact on the manageability of the project, a key element of this research.

The original organisational structure is given below in Figure 7.5. The structure provides for independent, parallel reporting lines from the implementation agencies, LHDA and Trans Caledon Tunnel Authority (TCTA), to the respective governments as well as via the JPTC.

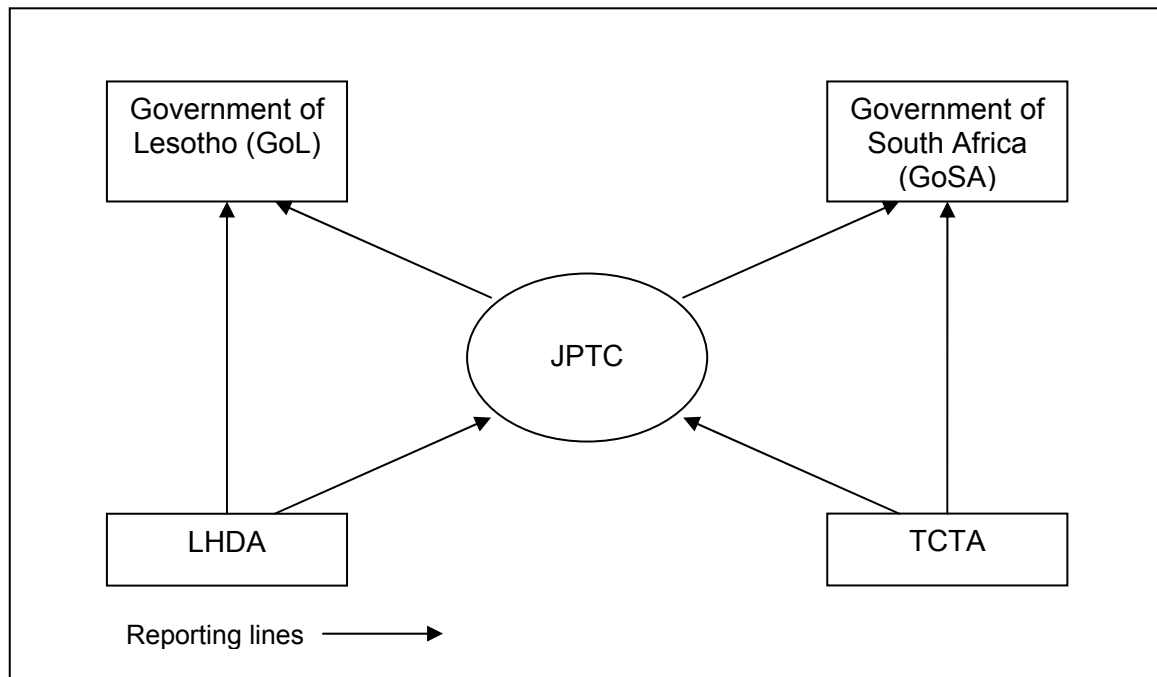


Figure 7.5: Original governance structure

As per Article 7, paragraph 1 of the Treaty (1986), the LHDA “shall have the responsibility for the implementation, operation and maintenance of that part of the Project situated in the Kingdom of Lesotho, in accordance with the provisions of this Treaty, and shall be vested with all powers necessary for the discharge of such responsibilities”.

Similarly, for the South African section, Article 8, paragraph 1 of the Treaty (1986), the TCTA “shall have the responsibility for the implementation, operation and maintenance of that part of the Project situated in the Republic of South Africa, in accordance with the provisions of this Treaty, and shall be vested with all powers necessary for the discharge of such responsibilities”.

The JPTC was established to serve as the combined governing body reporting to the main stakeholders, namely GoL and the government of SA (GoSA). In the context of the study, the JPTC can be considered as the 'steering committee'. As per Article 9, paragraph 1 of the Treaty (1986), the JPTC "was composed of two delegations, one from each Party (LHDA and TCTA). Each Party shall nominate three representatives constituting its delegation, as well as an alternative for each of the nominated representatives. At least one member of each delegation shall be permanently resident in Maseru. Each delegation shall alternately nominate a chairman for meetings of the JPTC".

The governance structure depicted in Figure 7.3 was operational from inception in 1986 until 1999 when it was due for review. From the NGT, panel the following shortcomings and main areas for improvement were identified:

- 1) Due to the dual reporting structure, there were often conflicting messages conveyed to the respective governments.
- 2) Decision-making and turnaround time for major queries took between 10 and 12 days.
- 3) The function of the JPTC was marginalised due to the direct access of LHDA and TCTA to their respective governments.

Reviewing governance on the LHWP

During 1999, the governance arrangements, as described in the Treaty (1986), were reviewed against the experience gained over a 12 year period. Given the areas for improvement identified, revised arrangements were promulgated under Protocol VI to the Treaty on the LHWP (1999). The changes resulted in:

Article 1 - Definitions

Article 2 - Changing the name of the JPTC

Article 3 - Restructuring the functions, powers and obligations of the LHDA

Article 4 - Institutional arrangements in the RSA

Article 5 - Restructuring the functions, powers and obligations of the LHWC

Article 6 – The prevention and settlement of disputes

Article 7 – Privileges and immunities

Article 8 – Entry into force

For the purpose of this research, the changes contained in Articles 2, 3 and 5 will be described.

The changes proposed in the Protocol VI (1999) resulted in a change to the governance structure, as provided in Figure 7.6 below.

The JPTC was renamed the Lesotho Highlands Water Commission (LHWC) and became the overall governing body with equal representation for the two respective governments as well as LHDA and TCTA. A single line of reporting was established via LHWC. The role of TCTA was redefined as maintenance and operations on the South African side while LHDA continued implementation and maintenance / operations activities in Lesotho.

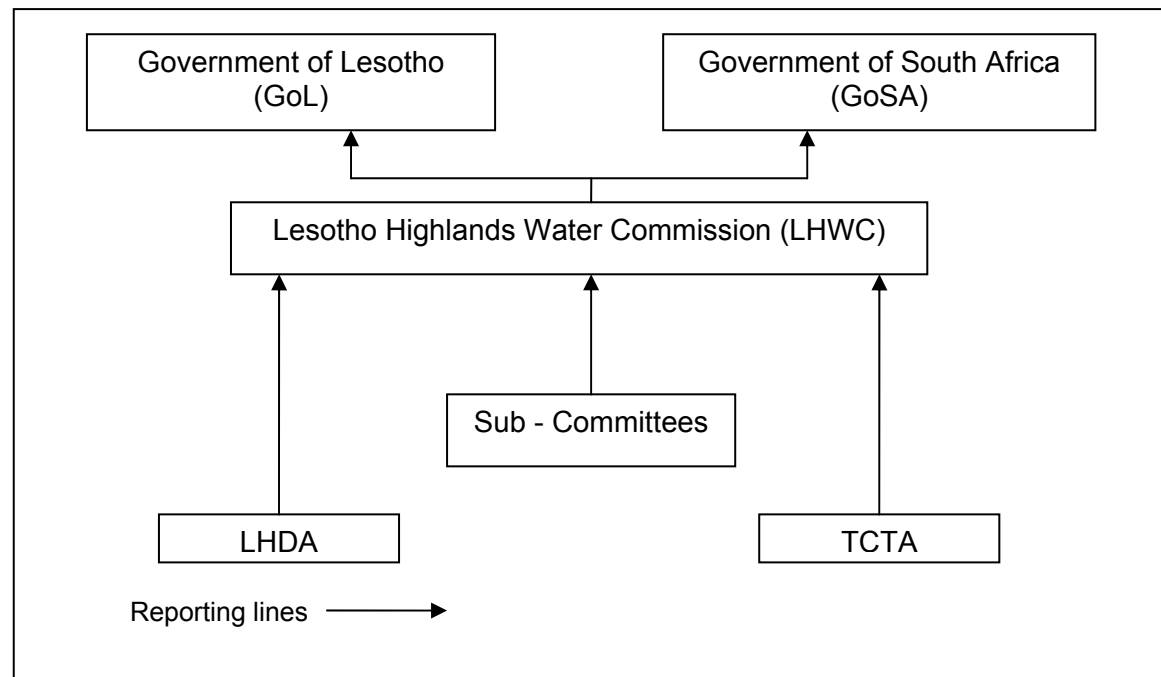


Figure 7.6: Revised organisation for improved governance

According to the NGT group, the new structure resulted in:

- A decision turnaround time of 3 to 4 days, and
- No conflicting messages to the respective governments.



Some criticism was received regarding the effectiveness of the LHDA Board, with a separate enquiry launched in 2005. The actual capability of the LHDA Board members was questioned and the draft report by Philip Armstrong (2005) recommended the inclusion of LHWC board members on the LHDA board to assist with the managerial problems, but the overall structure and defined responsibilities and accountabilities remained as is.

A significant observation made during the assessment by Armstrong (2005) is found in paragraph 2 of the Executive Summary, where it is stated that:

“While an appropriate, international standard corporate governance system should be in place given the nature and significance of the LHWP, it was important also to focus on core strategic and operational objectives given that the institutional arrangement for the LHWP do not naturally follow the more conventional corporate arrangements against which typical governance arrangements would be structured (for example, in the private sector)”.

This observation once again highlights the need to look at the unique challenges facing project governance, as opposed to corporate governance.

In support of the actions claimed by the panel towards the formation and functioning of the project governance principles, the following documentation was reviewed:

- Selection criteria and formal letters of application and appointment to the LHDA Board. These included:
 - M. Matsoso (15 December 2005)
 - T. Nkhahle (9 December 2005)
 - Dr M. Marake (14 December 2005)
 - A.L. Giani (7 December 2005)
 - J. J. Eager (9 May 2001)
 - Prof L. Qalinge (6 December 2005)
- Report of Panel of Experts (No 15), 07 August 2002
- Internal Audit Report (SEC/LHDA/2690), 23 March 2005
- LHDA Bank Signature & Expense Authority Limits

- Mohale Dam, Monthly Progress Report No. 19, October 1999
- Implementation Completion Report, Phase 1B, 1998 – 2006

iii) *Project governance at LHWP against the CPGF*

After discussing the background and context of the LHWP, and again emphasising the objectives of the NGT process, the CPGF was projected against an overhead screen and an additional column inserted to indicate the comments and results of the discussions. By viewing the insertions and changes, the NGT participants could immediately indicate their approval of the changes. All changes and additions are indicated in ***italic bold***. Where no comments are given and the phrases are merely copied in *italic*, the NGT panel agreed with the phrases as documented.

The result of the session is given below in Table 7.3, with special attention drawn to the last column.

Table 7.3: Concept project governance framework

	P. Project Governance	
	A. Project Steering Committee	A. Project Steering Committee (LHWC) – see note 1
1. Composition	1. Core Competencies <ul style="list-style-type: none"> • Project finance and cost management • Business / project alignment • Front-end-Loading management • Crises response • Industry knowledge • International experience • Leadership • Strategic alignment capability • Contract management capabilities 2. Steering Committee Size Determined by project type, complexity and magnitude	1. <i>Core Competencies (Original Technical – complimented by others in 1999)</i> <ul style="list-style-type: none"> • <i>Project finance and cost management</i> • Project definition and requirements • <i>Business / project alignment</i> • <i>Front-end-Loading management</i> • <i>Crises response</i> • <i>Industry knowledge</i> • <i>International experience</i> • <i>Leadership</i> • <i>Strategic alignment capability</i> • <i>Contract management capabilities</i> • Social and Environmental capabilities (see note 2) 2. <i>Steering Committee Size</i>



	<p>3. Member Mix Comprise members with direct interest as well indirect stakeholder representatives i.e. socio-economic and environmental</p> <p>4. Chairperson Independent The Chairperson should be independent from any project stakeholders</p>	<p><i>Determined by project type, complexity and magnitude</i></p> <p><i>3. Member Mix Comprise members with direct interest as well indirect stakeholder representatives i.e. socio-economic and environmental</i></p> <p><i>4. Chairperson Independent Chair role alternating between SA and Lesotho – not compromising mutual agreement</i></p>
2. Responsibility	<p>1. Committee Accountability</p> <ul style="list-style-type: none"> • Overall accountability • Bridging gap between project and immediate external and statutory environment. <p>2. Charter Development and adherence to project charter</p>	<p><i>1. Committee Accountability</i></p> <ul style="list-style-type: none"> • Overall accountability • Bridging gap between project and immediate external and statutory environment. <p><i>2. Charter Development and adherence to project charter (Treaty – formal – very successful)</i></p>
3. Audit Committee to Board of Directors	<p>1. Levels of Independence The project audit committee should be independent, with the steering committee excluded from the audit committee.</p> <p>2. Project Literacy The audit committee should have extensive project experience on all aspects of large capital projects</p>	<p><i>1. Levels of Independence The project audit committee should be independent, with the steering committee excluded from the audit committee.</i></p> <p><i>2. Project Literacy The audit committee should have extensive project experience on all aspect of large capital projects. (Utilise panel of experts for project management)?</i></p>
	B. Cost and Benefit Management	B. Cost and Benefit Management
1. Financial Reporting Responsibility	<p>1. Steering Committee Report against approved budget</p> <p>2. Project Governance Charter Report on adherence to the charter</p>	<p><i>1. Steering Committee Report against approved budget Reporting to lenders (i.e. World Bank criteria)</i></p> <p><i>2. Project Governance Charter Report on adherence to the Treaty</i></p>

<p>2. Financial Disclosures</p>	<p>1. Project Finance For any financial activities outside the GAAP requirements, full disclosure will be required</p> <p>2. Reports Project financial status to be reported on a quarterly basis</p> <p>3. Corrections and Adjustments To be reported quarterly</p>	<p>1. <i>Project Finance</i> <i>For any financial activities outside the GAAP requirements, full disclosure will be required</i></p> <p>2. <i>Reports</i> <i>Overall project status to be reported on a quarterly basis</i></p> <p>3. <i>Corrections and Adjustments</i> <i>To be reported quarterly</i></p>
<p>3. Internal Controls</p>	<p>1. Risk Management Process Formal risk management process should be in place</p> <p>2. Risk Management The steering committee must actively ensure that proper risk identification, quantification and mitigation planning is done on the project, not only on financial aspects, but covering all aspects of the project</p> <p>3. Risk Disclosure Disclosure must be made about all the risks on the project during the total project life-cycle</p> <p>4. Risk Certification Requirement for monthly certification by the chairperson of the steering committee of disclosure controls and procedures</p>	<p>1. <i>Risk Management Process</i> <i>Formal risk management process should be in place. (Was not done formally on the LHWP, but is highly recommended)</i></p> <p>2. <i>Risk Management</i> <i>The steering committee must actively ensure that that proper risk identification, quantification and mitigation planning is done on the project, not only on financial aspects, but covering all aspects of the project. (Was not done formally on the LHWP, but is recommended)</i></p> <p>3. <i>Risk Disclosure</i> <i>Disclosure must be made about all the risks on the project during the total project life-cycle. (Was not done formally on the LHWP, but is highly recommended)</i></p> <p>4. <i>Risk Certification</i> <i>Requirement for monthly certification by the chairperson of the steering committee of disclosure controls and procedures. (Was not done formally on the LHWP, but is highly recommended)</i></p>
	<p>C. Project Reviews and Audits</p>	<p>C. Project Reviews and Audits</p>
<p>1. Independence</p>	<p>1. Objectivity Independence and objectivity of the project auditors and reviewers must be ensured</p>	<p>1. <i>Objectivity</i> <i>Independence and objectivity of the project auditors and reviewers must be ensured</i></p>

	<p>2. Scope Project reviews and audits should not be confined to adherence to in-house methodologies and practices, but should include items that the review / audit deem necessary in order to protect stakeholder interests</p> <p>3. Rotation Auditors should have no direct or indirect interest in the project or in the contractors / suppliers involved with the project.</p>	<p>2. Scope <i>Project reviews and audits should not be confined to adherence to in-house methodologies and practices, but should include items that the review / audit deem necessary in order to protect stakeholder interests. (LHWC and JPTC formally utilised panels of experts: engineering panel, social and environment panel)</i></p> <p>3. Rotation <i>Auditors should have no direct or indirect interest in the project or in the contractors / suppliers involved with the project. (Done formally on LHWP)</i></p>
2. Interaction with Companies	<p>1. Internal Charter The internal charter should include the approach towards the auditing of project management, the adherence to project methodologies, processes and agreed practices and the project team's functioning.</p> <p>2. Communication As with corporate governance, it requires mandatory communication between the external auditor and the audit committee</p>	<p>1. Internal Charter (Policies & procedures) <i>The internal charter should include the approach towards the auditing of project management, the adherence to project methodologies, processes and agreed practices and the project team's functioning. (Done very formally – plus sub-committees)</i></p> <p>2. Communication <i>As with corporate governance, it requires mandatory communication between the external auditor and the audit committee</i></p>
3. New Attestation Report	<p>1. Report External auditor must issue an attestation report on the project's internal control report</p>	<p>1. Report <i>External auditor must issue an attestation report on the project's internal control report</i></p>
4. Disclosure	<p>1. Non-audit services As with corporate governance, it is required that separate disclosure of the amounts paid to the external auditor for non-audit services is made, together with a detailed description of the nature of services</p>	<p>1. Non-audit services <i>As with corporate governance, it is required that separate disclosure of the amounts paid to the external auditor for non-audit services be made, together with a detailed description of the nature of services</i></p>

	<p>2. Fees Requires disclosure of fees paid to a company's principal external auditor since project commencement</p>	<p>2. Fees <i>Requires disclosure of fees paid to a company's principal external auditor since project commencement</i></p>
	<p>D. Ethical, responsible conduct and conflict of interest</p>	<p>D. Ethical, responsible conduct and conflict of interest</p>
1. Code	<p>1. Standards A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</p> <ul style="list-style-type: none"> • Environment • Social aspects • Socio-economic aspects • Conflict of interest guidelines <p>2. Adherence Adherence to the code of ethics should be disclosed and reported on a monthly basis.</p> <p>3. Disclosure Code should be made publicly available and any changes to the code or waivers from the code must be disclosed</p>	<p>1. Standards <i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none"> • <i>Environment (not done formally)</i> • <i>Social aspects (not done formally)</i> • <i>Socio-economic aspects (not done formally)</i> • <i>Conflict of interest guidelines (not done formally)</i> • <i>Communication to external parties</i> • <i>Office conduct</i> <p>2. Adherence <i>Adherence to the code of ethics should be disclosed and reported on a monthly basis. (Not formal – done on a by-exception basis)</i></p> <p>3. Disclosure <i>Code should be made publicly available and any changes to the code or waivers from the code must be disclosed</i></p>
2. Compensation	<p>1. Performance Performance-related elements of compensation should represent a substantial portion of the total compensation package</p>	<p>1. Performance <i>Performance-related elements of compensation should represent a substantial portion of the total compensation package</i></p>
3. SHE	<p>1. Adherence SHE requirements should be to international standards as a minimum, supplemented by host</p>	<p>1. Adherence <i>SHE requirements should be to international standards as a minimum, supplemented by host country requirements. (Not done)</i></p>

	country requirements	<i>formally on LHWP – see note 2)</i>
4. Social	1. Adherence Social and socio-economic considerations should be to international standards as a minimum, supplemented by host country requirements	<i>1. Adherence Social and socio-economic considerations should be to international standards as a minimum, supplemented by host country requirements. (Not done formally on LHWP – see note 2)</i>

Notes to input:

Note 1 - Initially the JPTC, and later the LHWC, effectively fulfilled the function of 'steering committee' on the LHWP. In hindsight, project governance was well defined and applied on the project, although not in so many words. To develop the governance principles in the form of the Treaty took approximately 18 months and is a well thought through document with an excellent description of the project scope.

Note 2 - A prominent feature of the project was the lack of attention to health and environmental issues. This was partly due to the fact that safety, health and environmental issues were not such a critical issue during the mid 1980s and few legal requirements on the subject existed.

Again, on the question of which items in the CPGF are the most important and how the items should be ranked, the unanimous response was that this is impossible to say and that prioritisation will differ depending on the type and location of the project. However, the panel highlighted the benefits of having a well-defined scope of work and a technical / managerial component in people on the steering committee.

Due to the capital size and duration of the project, many opportunities presented themselves that tested the effectiveness of governance principles contained in the Treaty. The next paragraph addresses some of the issues that arose and which are still being addressed.



iv) *Legal actions and activities against LHWP*

Various legal actions have been taken against, and by, the LHWP. Some of the actions include:

- Investigations into corruption / bribery allegations were launched against: Spie Batignolles (France); Lahmeyer (Germany); Dumez (France); ABB (Sweden); Impreglio (Italy); Cegelec (France); Gibb (UK) and Sogreah (France). The parties apparently paid bribes to former LHWA CEO, Masupha Sole (Zhuwakinyu, 2003).
- Also likely to be charged are members of the Highlands Water Venture (HWV) consortium – which built the Katse dam and comprised: Hochtief (Germany), Impreglio, Bouygues (France), Stirling International (UK), Kier International (UK), Concor (South Africa) and Group Five (South Africa) – and the Lesotho Highlands Project Contractors, which built the tunnels in Lesotho and was made up of Spie Batinolles, Balfour Beatty (UK), Compenon Bernard (France), LTA (South Africa) and ED Zublin (Germany)(Zhuwakinyu, 2003).
- In 2004 Acres were found guilty of bribery and had to pay a fee of US\$ 2.2 million to the Lesotho High Court. In the same year the company was also blacklisted on the World Bank's list of suppliers and contractors (McClearn, 2004)
- Masupha Sole was found guilty and imprisoned for 18 years (McClearn, 2004)
- In 2006 the German firm Lahmeyer was also found guilty of bribery, fined R12 million and blacklisted on the World Bank list of suppliers and contractors (Engineering News, 2006).
- Other companies found guilty were Schneider Electric SA (fined R10 million) and Impreglio (Zhuwakinyu, 2004).

Apart from the above cases, the LHWP also had to deal with claims against a potential river diamond mining operation, destruction of the habitat of indigenous fish species and rebuilding of local housing after destruction during earth movement caused by the water fill.

In the Treaty it appears that issues of potential misconduct and unethical behaviour as well as the environment were not dealt with in as much detail as managerial arrangements and thus could have benefited from a formal project governance framework.

Apart from addressing the specific NGT protocol questions, some significant comments about project governance in general were made. These items are discussed in the next paragraph.

iii) General observations from NGT participants

Again the NGT session on the LHWP project took longer than expected and triggered some important observations from participants. The most important observations, that could have an impact on formalising a final PGF, are listed below:

- Again the NGT panel agreed a governance environment for the project manager to function within is usually lacking on large capital projects. Thus, the necessity of a formal approach towards project governance cannot be disputed and current theories and practices do not cater for these practices.
- The importance of skilled personnel, consultants and contractors cannot be over emphasised. As with the Mozal I project, most of the items were addressed because of the high level of experience and skill of the senior managers on the project.
- Clarity of scope is a determining factor. If the scope is clear, the manageability of the project increases drastically, thereby simplifying the establishment of a project governance framework. The core competency of scope development listed in the CPGF is of critical importance.
- The LHWP had the luxury of ample time to develop the Treaty. Not all projects have this luxury and therefore some guideline will be beneficial.

In summary, the NGT panel on the LHWP project unanimously agreed that a formal framework for project governance would greatly assist the senior



management and project steering committee on LCPs to create an environment for effective project management.



Chapter 8: Secondary Case Study Review

The detailed case studies provided valuable insight into the formal and informal management of project governance principles in large, cross-country, capital projects. Confirming the observations made by the Delphi participants, the NGT participants supported the potential value of working towards a structured project governance framework to assist in creating an environment within which the project can be managed towards success.

A major stumbling block for this study was the reserved response from project managers to provide no, or very limited access to information on LCPs that evidenced severe failures, especially where the failures could potentially be traced to project governance issues. Various attempts were made to access a number of projects, but even with an undertaking to conduct an anonymous study, no participation could be achieved. Given this unfortunate situation, a process was launched to conduct secondary case studies.

With secondary case studies, various project cases available in literature were searched and their outcomes evaluated against key parameters contained in the CPGF. A total of 15 secondary cases were identified reviewed and clustered into categories ranging from failure, to questionable and successful. Although the clusters do provide trend indications of where most projects fail or achieve success, it would be difficult to generalise this outcome due to the potential subjectivity of the case study origin. However, a clear observation is that the key determining outcomes could be traced to at least one assessment area in the CPGF.

The following paragraphs provide information on how the secondary cases were obtained, the method of assessment, the mapping of the cases against the assessment criteria and final conclusions.

8.1 Searching for secondary project case studies

During the search for project case studies on LCPs it became clear once again that proper project cases are very difficult to obtain. As opposed to strategic, marketing and human resource management, the compilation of proper project cases has lagged tremendously in general theory and academic literature. Obviously, this provides a major opportunity for academia and researchers to fill this gap in the field of project management teaching and research.

The criteria for case study usage / non-usage were listed prior to the commencement of the search and are tabled below (Table 8.1).

Table 8.1: Criteria for qualifying the usage / non usage of available project cases

Qualifying criteria	Disqualifying criteria
<ul style="list-style-type: none">• Must be an actual project case	<ul style="list-style-type: none">• Project case should not revolve around project management or control items?
<ul style="list-style-type: none">• Project must involve multiple stakeholders, including the broader society and preferably access various sources of funding?	<ul style="list-style-type: none">• Project cases must not have a marketing / promotional approach
<ul style="list-style-type: none">• Projects involving multiple countries and multiple companies would be preferred	

The criteria for project case selection were based on an attempt to discover real life cases with a fair element of objectivity.

Marketing and teaching case studies were not considered, nor cases where detailed project management and control activities are discussed.

The search for project cases included various methods, from formal key word searches via an official academic information service, to enquiries, project institutions and general internet browsing. A comprehensive list of candidate projects was compiled and project that did not meet the criteria were eliminated. The process and reasons for elimination are discussed in the following paragraphs.



8.1.1 Key word searching

In order to obtain information on projects that were involved in some form of legal dispute, a key word search was launched with the University of Pretoria's Academic Information Services (UPAIS), searching for:

- Court cases where legal action was taken against the owners of LCPs.
- General project cases studies and their outcomes.

It was hoped that the first search would result in the provision of official court cases in which the case subject and ruling would indicate some relation to a project governance assessment area. The outcome provided only two project case studies, namely the Ok Tedi copper mining project in Papua New Guinea (Zillman, Lucas and Pring, 2002) and the oil exploration project in Ecuador (Boyle and Anderson, 1996). Both project cases discussed the legal actions taken to protect the environment and social well-being of the indigenous population.

The second general project key word search provided, mostly, superficial in-company case studies that are predominantly used for marketing and promotion purposes. Due to the promotional and marketing approach, the potential use of these types of case studies was limited in the context of this dissertation.

8.1.2 Enquiry to project management institutions

The search for project cases continued with approaches to established project management institutions, namely PMI, APM and IPMA.

During 2006, PMI produced a collection of project management case studies, authored by Frank T. Arbani (2006). The case studies included:

- Mars Pathfinder
- Superconducting Super Collidor



- The Chunnel Project
- Miller Park Stadium
- Springfield Interchange, and
- Glasgow Science Centre Tower

However, all these case studies were viewed against the PMBoK (2000) project process, and therefore addressed project control rather than the elements of project governance.

Additional project case studies available on the PMI website (Summary Case Study Library, 2007), included:

- The 2005 Canada Games
- AAA of Northern California
- Baldwin Water Works
- Colorado Springs Welcome Home Parade
- Denver International Runway
- Project Flexibility on a Global Scale Huawei Technologies
- NASA Autonomous Rotocraft Project
- New Zealand Wind Farm
- Quartier International de Montréal
- Saudi Aramco Haradh Gas Project

Again, these projects could not be used due to the marketing approach and promotion of project management principles.

Another source from this search that could not be utilised was the case studies contained in the book by Kerzner (2006). Again, these case studies revolved around project management and control, not governance.

8.1.3 Internet search

An extensive internet search provided the most useful source of information. Given the criteria listed, project cases could be retrieved from sources such as:



- United Nations (www.un.org)
- World Bank (www.worldbank.org)
- European Bank for Reconstruction and Development (EBRD) (www.ebrd.org)
- Probe International (www.probeinternational.org)
- Rights Action (www.rightsaction.org)

Projects found on the World Bank, United Nations and EBRD websites and databases focused on PPPs and developmental projects. These sources are valuable in terms of coverage of multiple countries, companies, governments and stakeholders. The only criticism is the potential subjectivity in promoting these institutions' goodwill when listed on their own websites.

The projects listed by Probe International and Right Action were mostly concerned with projects in potential violation of ethical, social and environmental conduct. These institutions are concerned with highlighting potential harm that projects could cause and actively engage in investigations. Obviously, these are reputable resources, but care should be taken with regard to potential subjectivity and protection of interests.

8.1.4 Selected case studies

Eventually the search for case studies resulted in various references to projects that had to be viewed in terms of their outcomes. A total of 15 projects were selected and are summarised in Appendix E. The projects were categorised as being 'successful' (s), 'failed' (f) or 'questionable' (q). The successful and failed projects were categorised in terms of their eventual outcome and economical / social / environmental and sustainability impact, whilst the questionable projects still had pending issues during the writing of this dissertation.

The projects selected were numbered according to the corresponding Secondary Case Number 'B' in Appendix E:

B1 - Danish Sports Facility (f)



- B2 - British Embassy in Berlin (s)
- B3 - The Mapeley PFI project: sale of land and building by the Inland Revenue (f)
- B4 - The Chesapeake Forest (s)
- B5 - The Zurich Soccer Stadium project (s)
- B6 - D47 Motorway Project (Czech Republic) (f)
- B7 - Tajikistan Pamir Private Power Project (s)
- B8 - Scottish Schools (q)
- B9 - Bulgaria, Sofyiska Voda – Water Supply Programme (s)
- B10 - Vancouver Landfill Cogeneration Plant (s)
- B11 - Channel Energy Poti Port Project, Georgia (s)
- B12 - New Multi-purpose Terminal in the Baltic Seaport of Ventspils, Latvia (s)
- B13 - Three Gorges Dam (q)
- B14 - Ecuador Oil Production (q)
- B15 - Ok Tedi Mine – Papua New Guinea (f)

In total, 8 projects were successful, 4 were failures and 3 are still questionable. The selected projects and their categories formed the basis for further evaluation.

8.2 Mapping the project outcomes on the CPGF

Each project's outcome was assessed against the CPGF to see 'where things went right or wrong'. For example, where the project established a successful venture through well structured financing arrangements and managed environmental studies, the project was linked with:

- A. Project Steering Committee – 1. Composition, as well as
- D. Ethical, responsible conduct and conflict of interest – 1. Code

The detailed description of each specific element is given in Appendix E. The total number of repetitions for each assessment area is also given. The summarised mapping of the project outcomes is allocated to 'successful',

‘failed’ and ‘questionable’. The ‘successful’ projects’ mapping is given in Figure 8.1 above.

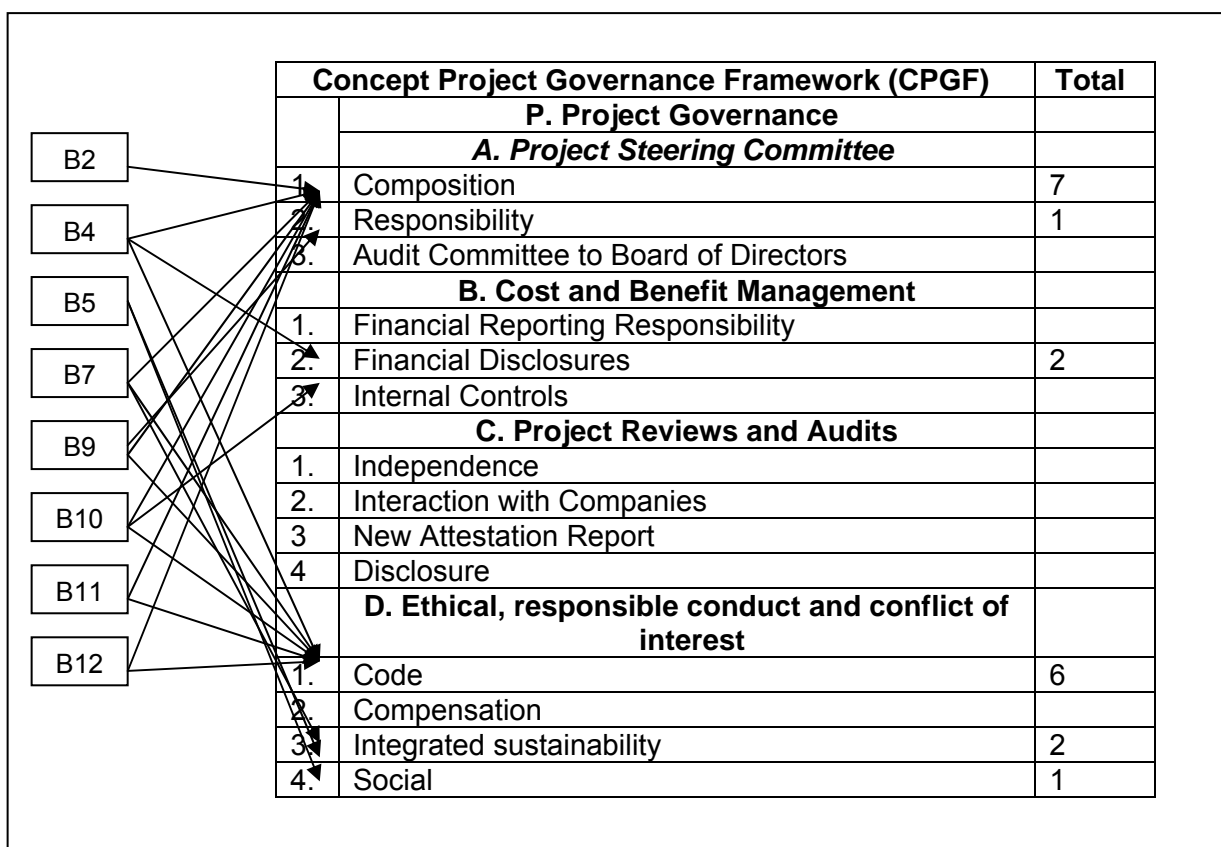


Figure 8.1: Successful project mapping

On the successful projects it is evident that the most prominent drivers were ‘Composition’ (seven references) of the Steering Committee and ‘Code’ (six references) and which includes adherence to ethical, social, socio-economic and environmental compliance and management. Under ‘Composition’, the structuring of financial arrangements and contractual agreements played a dominant role (see Appendix E). Again, due to the origin of these project cases, namely development agencies, it was expected that the mentioned areas would be considered important.

The same exercise, as was done with successful projects, was done with failed projects. The results are given below in Figure 8.2.

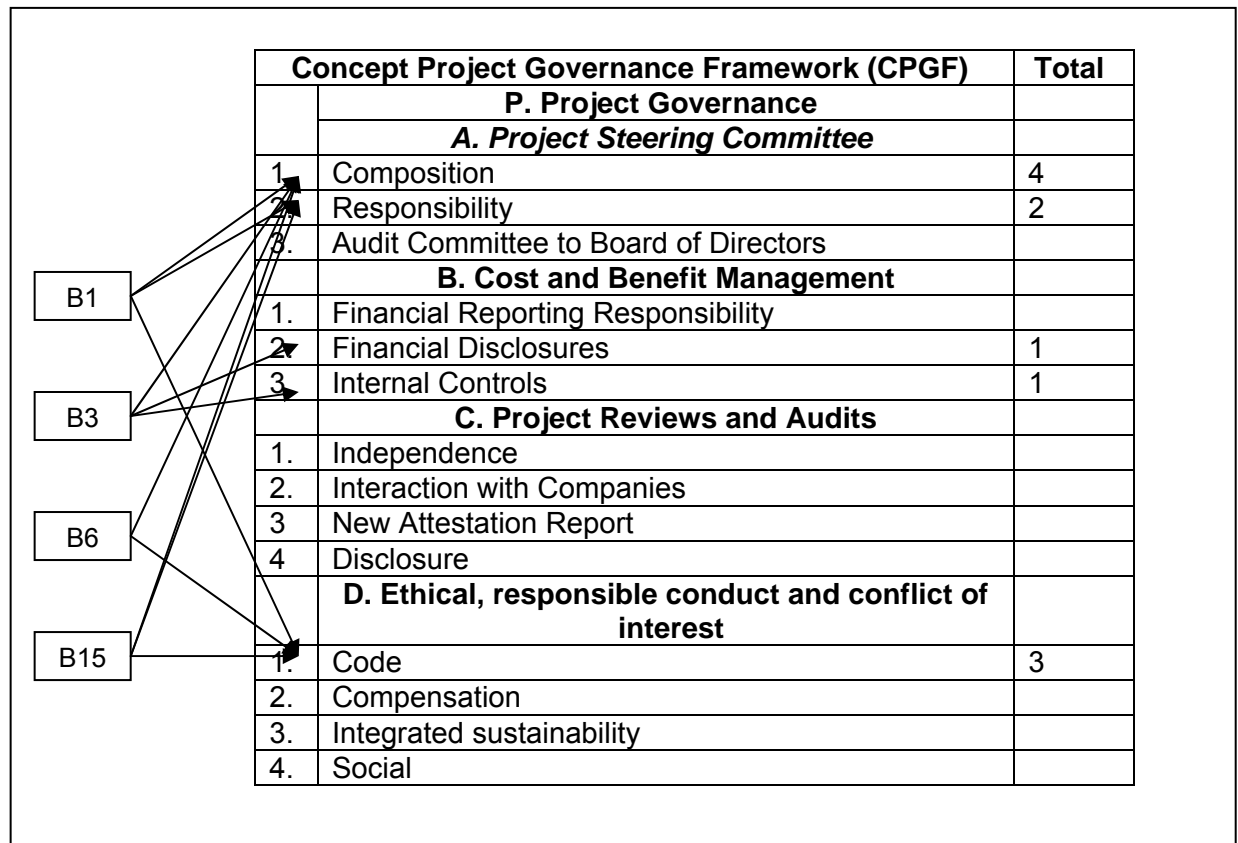


Figure 8.2: Failed project mapping

An interesting result for the failed projects is that the ‘causes’ of project failure are also the ‘causes’ for project success. Badly structured, financed projects not adhering to the codes of conduct relating to the broader society seem to be bound for failure.

Figure 8.3 below illustrates the assessment of ‘questionable’ projects and is given below (Questionable Project Mapping).

Again, as with the successful and failed projects, the ‘questionable’ projects indicated that Composition, Code, Integrated Sustainability and Social parameters have a deciding influence on project outcomes.

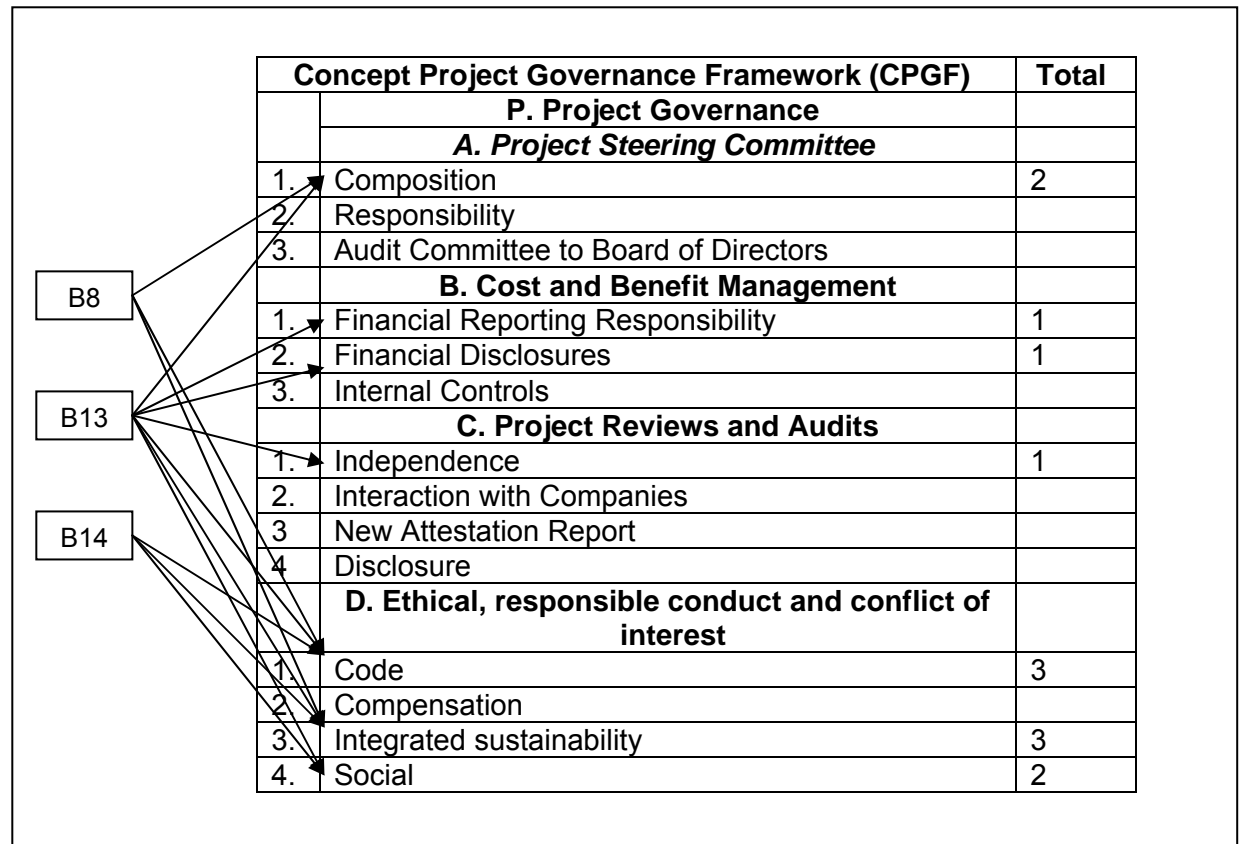


Figure 8.3: Questionable project mapping

8.3 Summary

As indicated by nearly all the Delphi study participants, a project governance framework must be generic enough to allow for the majority of variables found in LCPs but also flexible enough to adjust to specific project requirements. In order to assess the general application of the CPGF, 15 case studies were selected through a general internet search and assessed against the criteria listed in the four sections of the CPGF.

The projects were categorised in terms of whether the project outcomes were successful, a failure or questionable. The main reasons for the outcome were identified and linked with an assessment category in the CPGF.



From the results, it was clear that for every project at least one CPGF category could be linked to the main causes of the project outcomes.

Thus, in terms of general application and completeness, the CPGF content proved to be sufficient and these 15 cases did not indicate any further need for modification of the CPGF.

A second observation made during the secondary case study exercise was that certain assessment categories have a higher frequency of occurrence than others. Although this could be due to the type of projects assessed, it remains significant that:

- The composition of the steering committee, especially the members' ability, or inability, to structure the project financially and contractually, had a major impact on project outcomes.
- The adherence, or non-adherence, to a code of ethical, responsible conduct and conflict of interest, also had a significant impact on project outcomes. In most of these cases, addressing socio-economic sustainability and environmental concerns proved to be key to ensuring a positive project outcome.

During the search for case studies it became clear, once again, that the availability of well documented project case studies remains a challenge. The use of case studies forms an integral part of management teaching and research and thus far project management seems to lag behind other management fields.

Given the findings of the literature reviews on LCPs, corporate governance, the Delphi study, as well as the results from the primary and secondary case studies, some conclusions can be drawn in the formulation of a final project governance framework.



Chapter 9: Conclusions and Recommendations

Project governance is a topical subject. Debates and arguments with respect to its purpose and content are becoming vibrant in project management literature and practice. Without a proper, generally acceptable definition of the term ‘project governance’, various academics, consultants and practitioners have adopted the term and apply it to virtually any form of governing activity. The term has been used in the field of information management (where access to data is ‘governed’), the control or management of project managers and managing programmes (as opposed to projects). However, within all the various applications of the term, a common objective is surfacing: “to improve the overall performance of projects in terms of meeting project objectives, within time and within budget”.

This dissertation focussed on the definition and application of project governance in the field of LCPs. To define a LCP is problematic because projects with a relatively small capital value can have a large impact (i.e. a pilot nuclear reactor). Conversely, a relatively simple project can have a large capital outlay (i.e. replacement of a power station turbine and compressor set). For the purpose of this study, projects valued at over US\$ 50 million were considered. However, where smaller projects had a significant impact on the environmental and socio-economic fields they were also added to the research data base. Given this flexibility, it was still decided to exclude projects with a capital value of less than US\$ 10 million.

The following paragraphs provide a short overview of the literature study and rationale behind the topic of project governance. This background was used as a foundation to define the concept of ‘project governance’ and what it should comprise. The end product of this part of the study, which was done by means of the Delphi method, was the CPGF. The CPGF was then used to evaluate two case studies in depth, as well as 15 smaller cases studies. The purpose of the case studies was to evaluate the completeness and general



applicability of the CPGF. Given the lessons learned in applying the CPGF to all the case studies, a final PGF is proposed. This chapter concludes with recommendations for future studies on the topic of project governance.

9.1 LCPs and the search for performance improvement

Over the years, the performance of LCPs in the energy, infrastructure, mining, petrochemical, nuclear and other heavy industries has remained questionable. Even with the invention and development of advanced project management tools, techniques and software systems, the overall performance of LCPs remains poor in terms of meeting cost budgets and intended benefits. Some project cost overruns amount to more than 100% of the initial budget and could be referred to as ‘scandalous’. This observation prompted the search for potential solutions outside the immediate sphere of project management and control.

In the field of corporate management, evolutionary developments brought about formal approaches and guidelines to the management of organisations. A major management intervention occurred in the late 20th century after corporate financial scandals with the establishment of corporate governance guidelines and laws. With projects, sometimes referred to as temporary organisations, it seemed possible that project management could benefit from these principles and bring about a higher level of responsibility in project cost estimation and development.

9.2 Corporate governance

The evolution of the corporation can be traced back to 3000 BC. The process of corporate evolution saw a cyclical alteration of ownership and control being centralised by governments and privatised. The modern privatisation notion was prompted in the early 1980s by the UK government and spread around the globe. With pressure on private corporations to perform financially for their shareholders, as well as major incentives offered to top management, high risk dealings and decisions were taken. With the enormous pressure on



performance and subsequent lucrative financial incentives, some top managers were drawn into fraudulent activities and misrepresented company financial status for their own benefit. These practices led to major scandals (e.g. Enron, Parmalat, Worldcom, etc.) and prompted government to again intervene. This intervention saw the emergence of corporate governance in various forms, from laws to guidelines. The overall intention of corporate governance was to establish “an environment that defines the parameters for responsible corporate and managerial conduct” and corporate governance was applied to all spheres of organisational activities, from private to governmental institutions.

This environment, within which the parameters are set for management to run their organisation’s strategic and operational activities, does not exist in the world of projects. Various statutory guidelines exist for projects initiated under non-governmental institutions like the World Bank, United Nations, International Monetary Fund, etc., but the term project governance, in the same context of corporate governance, has not been defined as yet.

9.3 Defining ‘project governance’

In order to define the term ‘project governance’ a Delphi study was launched to obtain input from participants involved in project management practice as well as from academics. The Delphi study was conducted over two rounds, after which convolution was obtained. A total of nine questions were posted and the final answers are given in Table 9.1 below.

The results from the Delphi studies provided some form of definition for project governance. They also confirmed the lack of a project governance framework or model that would provide and define an environment within which large capital projects could be initiated and implemented. It was also clear from the feedback that any form of project governance framework should be strongly linked to the principles of corporate governance and must be generic to allow for customisation as required.

Table 9.1: Delphi results

No	Question	Final Response
1	How would you define / describe the concept of project governance?	Project governance is a set of management systems, rules, protocols, relationships and structures that provide the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation
2	Do current project management frameworks and practices fail to address project governance? Please explain.	Overwhelmingly YES (current frameworks and practices do fail to address project governance). Although some guidelines exist on the governance of project management, concerns were raised regarding: 1) the definition and management of risk 2) non-alignment and lack of integration with business / strategic parameters 3) authority of project leaders 4) practical application of governance concepts in projects, as well as 5) discipline to refine and apply project governance principles.
3	What are the similarities between corporate governance and project governance?	General consensus was that for project governance the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of, corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the board, project governance should do the same for the project steering committee.
4	What are the differences between corporate governance and project governance?	Corporate governance is very clear regarding the level and detail of financial and legal disclosures, while for project governance the level and type of disclosure it is not at all clear. The difference in timeframes requires an alternative approach to the process and speed of decision-making.
5	What are the differences between project control and project governance?	Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.
6	To what extent should a project governance framework for LCPs be project specific, company specific, country specific or generic?	A project governance framework should be largely generic, with room to incorporate project specific and unique requirements.
7	Much effort currently goes into the establishment of global corporate governance principles. What	Challenges include: 1) accommodating financier's requirements and risks 2) application in countries with weak corporate governance 3) apply in countries where senior / influential individuals

	challenges need to be considered and overcome in the development and establishment of a formal global project governance framework for LCPs involving multiple countries and companies?	'do not want better control' for selfish reasons 4) complexity of globalisation and virtual work 5) making project governance simple and practical to apply, as well as 6) overcoming stakeholder resistance to 'another' form of statutory requirement.
8	How should role player liability towards eventual project performance be incorporated into a global project governance framework?	This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with a board of directors in corporate governance), while the other school of thought argued that any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.
9	Please provide any other comments that you might have regarding the development and implementation of a project governance framework.	The project governance framework should: 1) be generic, with the possibility of incorporating project specific requirements 2) be very practical to use 3) be a framework for decision-making, and 4) contain an element that promotes self-governance. Project governance should reduce runaway project spending, just as good corporate governance reduces uncontrolled.

From the Delphi results, the corporate governance principles stipulated in the King II guidelines (SA) and Sarbanes Oxley Act (The United States of America, 2002) were used as a basis for deriving a CPGF. The countries were selected on the basis of the level of development. The RSA is termed a developing country and the corporate governance principles reflect the current needs of the developing world, especially in the fields of environmental and socio-economic management. The USA represents the developed world, with their corporate governance laws more focussed on financial management and reporting.

In order to test the CPGF, two sets of case studies were conducted. The first (primary) case studies comprised two in-depth case studies, while the secondary cases comprised of 15 projects available in literature.



9.4 Case studies

For the two primary case studies, the Mozal I project and the LHWP were selected. In both cases, the NGT was applied. For the secondary cases studies, available literature on the 15 projects was collected and the outcomes evaluated against the components listed in the CPGF.

9.4.1 Results – primary case studies

Both panels involved in the respective case studies confirmed the need for and value of a well structured PGF for large capital projects. There was general agreement that project governance must be aligned with corporate governance.

The Mozal I project was very successful and was the winner of the PMI Project of the Year Award in 2001. During the study, it became clear that most of the project governance principles were addressed formally, or at least informally, during the project. Specific aspects that were done well and potentially contributed substantially to the success of the project were:

- Ability to properly define the project scope.
- Selection of competent personnel onto the steering committee and into senior positions.
- Auditing of various project management practices was conducted but not pre-planned. Due to the fact that the project was mostly privately funded, the in-house corporate governance principles assisted in adhering to good accounting practices.
- The format and content of the CPGF was generic and comprehensive enough for application to LCPs.
- No CPGF category could be considered to be more important than another.

The LHWP was a longer term project (20 years) involving more political input and state funding. The response from the panel and case study results are summarised below:



- Again the NGT panel agreed that a governance environment for the project manager to function within is usually lacking on LCPs. Thus, the necessity of a formal approach towards project governance cannot be disputed and current theories and practices do not cater for these practices.
- The importance of skilled personnel, consultants and contractors cannot be over emphasised. As with the Mozal I project, most of the items were addressed because of the high level of experience and skill of the senior managers on the project.
- Clarity of scope is a determining factor. If the scope is clear, the manageability of the project increases drastically, thereby simplifying the establishment of a project governance framework. The core competency of scope development listed in the CPGF is of critical importance.
- The LHWP had the luxury of ample time to develop the Treaty. Not all projects have this luxury and therefore some form of guideline would be beneficial.

In general, the primary cases revealed that the proper composition of the project team, a well defined project scope and a structured framework for project governance would be beneficial to any project.

9.4.2 Results – secondary case studies

The secondary case studies revealed a trend towards certain parameters in the CPGF, namely the Composition of the Steering Committee and compliance to the Code for Ethical, Responsible Conduct and Conflict of Interest. In most cases, both project success and failure could largely be attributed to adherence or non-adherence to both these parameters.

The secondary case studies demonstrated that the key performance drivers of the various projects were all contained in the CPGF and that the framework was generic enough to capture general and specific project variables. In view of this finding, a final PGF was proposed.

9.5 The project governance framework (PGF)

Considering the basic requirements for a PGF as stipulated by the Delphi participants and the results from the primary and secondary cases studies, a PGF is proposed for application and further refinement in industry. The PGF content is given below in Table 9.2 below.

Table 9.2: Project governance framework

	P. Project Governance
	A. Project Steering Committee
1. Composition	<p>1. Core Competencies</p> <ul style="list-style-type: none">• Project finance and cost management• Project scope development and confirmation• Risk assessment• Project control requirements• Business / project alignment• Front-end-Loading management• Crisis response• Industry knowledge• International experience• Leadership• Strategic alignment capability• Contract management capabilities• Understanding of social and environmental requirements• Political influence• Local legal requirements <p>2. Steering Committee Size Determined by project type, complexity and magnitude. Sub-committees for cost control, environmental, socio-economic, etc.</p> <p>3. Member Mix Comprise members with direct interest, as well indirect stakeholder representatives i.e. socio-economic and environmental.</p> <p>4. Chairperson Independent</p> <ul style="list-style-type: none">• For state expenditure - the chairperson should be independent from all project stakeholders• For own / private capital funding, the chairperson should be from the major shareholder and / or operating company
2. Responsibility	<p>1. Committee Accountability</p> <ul style="list-style-type: none">• Overall accountability• Bridging gap between project and immediate external and statutory environment• Project promotion and stakeholder enablement



	<ul style="list-style-type: none"> • Obtaining finance • Establish levels of authority <p>2. Charter Development and adherence to project charter, including project policies and philosophies.</p>
3. Audit Committee to Board of Directors	<p>1. Levels of Independence The project audit committee should be independent, with the steering committee excluded from the audit committee.</p> <p>2. Project Literacy The audit committee should have extensive project experience on all aspects of LCPs.</p> <p>3. Scope of the auditors to be vetted by the steering committee</p>
B. Cost and Benefit Management	
1. Financial Reporting Responsibility	<p>1. Steering Committee Report against approved budget.</p> <p>2. Project Governance Charter Report on adherence to the Charter.</p>
2. Financial Disclosure	<p>1. Project Finance For any financial activities outside the GAAP requirements, full disclosure will be required.</p> <p>2. Reports Project's financial status to be reported on a quarterly basis.</p> <p>3. Corrections and Adjustments To be reported quarterly.</p>
3. Internal Controls	<p>1. Risk Management Process Formal risk management processes should be in place.</p> <p>2. Risk Management The steering committee must actively ensure that proper risk identification, quantification and mitigation planning is done on the project and not only on the financial aspects, but covering all aspects of the project.</p> <p>3. Risk Disclosure Disclosures must be made about all the risks on the project during the total project life-cycle.</p> <p>4. Risk Certification Requirement for monthly certification by the chairperson of the steering committee of disclosure controls and procedures.</p>
C. Project Reviews and Audits	
1. Independence	<p>1. Objectivity Independence and objectivity of the project auditors and reviewers must be ensured.</p>

	<p>2. Scope Project reviews and audits should not be confined to adherence to in-house methodologies and practices, but should include items that the review / audit deem necessary to protect stakeholder interests.</p> <p>3. Rotation Auditors should have no direct or indirect interest in the project or in the contractors / suppliers involved with the project.</p>
2. Interaction with Companies	<p>1. Internal Charter The internal charter should include the approach to the auditing of project management, the adherence to project methodologies, processes and agreed practices and the project team's functioning.</p> <p>2. Communication As with corporate governance, it requires mandatory communication between the external auditor and the audit committee.</p>
3. New Attestation Report	<p>1. Report External auditor must issue an attestation report on the project's internal control report.</p>
4. Disclosure	<p>1. Non-audit services As with corporate governance, it is required that separate disclosure of the amounts paid to the external auditor for non-audit services is provided, together with a detailed description of the nature of services.</p> <p>2. Fees Requires disclosure of fees paid to a company's principal external auditor since project commencement.</p>
	D. Ethical, responsible conduct and conflict of interest
1. Code	<p>1. Standards A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</p> <ul style="list-style-type: none">• Environment• Social aspects• Socio-economic aspects• Conflict of interest guidelines <p>2. Adherence Adherence to the code of ethics should be disclosed and reported on a monthly basis.</p> <p>3. Disclosure Code should be made publicly available and any changes to the code or waivers from the code must be disclosed.</p>

2. Compensation	1. Performance Performance-related elements of compensation should represent a substantial portion of the total compensation package.
3. SHE	1. Adherence SHE requirements should be to international standards as minimum and be supplemented by host country requirements.
4. Social	1. Adherence Social and socio-economic considerations should be to international standards as a minimum and be supplemented by host country requirements.

The PGF provides a generic baseline for country, company or project specific requirements. However, all aspects listed should be adhered to and preferably be formally audited.

9.6 Recommendations and topics for future research

To further develop the PGF and enhance research in the fields of project governance, the following suggestions could be considered:

- Obtain more case studies, both primary and secondary, and test their results and the drivers of the results against the PGF.
- The results from the Delphi study highlighted a shortcoming in current literature with respect to practical guidelines for project governance. Most literature either focuses on project leadership and the role of the project manager and then again on the alignment between the project and organisational strategy. The question remains how the strategic objectives will guide the governance of the project. This dissertation made an attempt to fill the gap by means of a generic framework, however much research can be done in future to provide more customised, country / industry specific PGFs.
- Much of the literature review discussed the findings from Flyvbjerg (2003). Although the analysis by Flyvbjerg (2003) was comprehensive, the study failed to provide a solution to prevent potential misconduct. It is believed that the PGF could assist in analysing the projects mentioned



by Flyvbjerg (2003) and assess the level of adherence to project governance principles. The PGF can be used to establish the relationship between adherence to project governance principles and eventual project outcomes.

- Develop a more detailed questionnaire for each PGF category on what the detail of the terms actually mean or represent
- Engage the corporate governance fraternity and obtain input to further enhance the formulation of the PGF
- Investigate the viability of establishing the PGF as a statutory requirement for LCPs.
- The study could not establish a predominant project governance factor in the primary case studies. Further studies could try to establish more dominant factors by increasing the sample size and allocating weights to the various factors.
- The impact of organisational politics on project performance.
- The impact of organisational politics on project estimation.

Further investigations and research into the PGF will confirm the existence of a fairly well defined PGF for application during the earlier phases of an LCP.

9.7 Limitations

This dissertation provides a generally accepted definition for project governance and established a framework to be used in practice. Even though the dissertation did achieve the set objectives, some limitations are still evident and provide opportunity for further development.

The limitations are:

- The empirical work was limited to the investigation of two large projects as primary case studies and a number of secondary case studies that did not necessarily involve large capital amounts



- The two primary case studies were both successful projects. For further validation more case studies should be reviewed and, preferably, less successful ones should be included.
- The study is limited to relatively complex projects, involving multiple stakeholders.



APPENDICES

Appendix A

Questionnaire:

The Development of a Formal Project Governance Framework for Large Capital Projects

A. Introduction

The concept of **Project Governance** is currently a popular topic of discussion.

However, after recent literature studies and engagement with practitioners as well as academics, it became clear that no formal and agreed upon definition or framework exists for **Project Governance**, especially in the field of large capital projects.

This study aims to source the views and inputs of experienced participants with respect to their understanding of what a typical **Project Governance** Model comprises of, or should comprise of, in the environment of large capital projects.

The study follows the Delphi Research Technique and will comprise at least two rounds of questioning. This round (which is the first round) comprises open questions, while the second round will comprise a ranking questionnaire.

Your input would be highly appreciated.



B. Participant Profile— [Name and Surname]

The participant profile contains a **General** section (B.1) to be completed by all participants. The second section (B.2) distinguishes between two categories, namely **Academics** and **Practitioners**. Please select the most appropriate category for completion.

B.1 General

Age: 21-30, 31-40, 41-50, 51 – 60, 61+

Country:

B.2 Categories

B.2.1 Academics	B.2.2 Practitioners
Highest Academic Qualification: B-degree, M-degree, PhD	Number of year's experience:
Number of international publications:	Estimated cumulative capital value of projects managed:
Number of books authored / co-authored:	Type of industry: Petrochemical, Oil & Gas, Mining, Transport & Infrastructure, Building, Telecommunications, Defence, Other
	Capacity: Client, Contractor, Consultant
	Position: Project Manager, Project Director, Sponsor



B. Questions

Please provide your detailed comments and views regarding the following:

1. How would you define / describe the concept **project governance**?
2. Do current project management frameworks and practices fail to address project governance? Please explain.
3. What are the similarities between **corporate governance** and **project governance**?
4. What are the differences between **corporate governance** and **project governance**?
5. What are the differences between **project control** and **project governance**?
6. To what extent should a **project governance model** for large capital projects be project specific, company specific, country specific or generic?
7. Much effort currently goes into the establishment of **global corporate governance principles**. What challenges need to be considered and overcome in the development and establishment of a formal **global project governance model** for large capital projects involving multiple countries and companies?
8. How should role player **liability** in eventual project performance be incorporated in a global project governance model?
9. Please provide any other comments that you might have regarding the development and implementation of a project governance model.



Appendix B

Delphi results: Round 1

This appendix contains the detailed feedback given by each respondent during the first Delphi round. To keep the responses anonymous, each respondent was allocated a number.

Each result table contains:

- The respondent number
- Respondent profile
- The nine questions
- Feedback per respondent

The feedback was summarised and prepared for the second Delphi round.

Respondent 1:

Name	Respondent 1
Age	51+
Country	RSA
Qualification	B-degree
Experience	35
International Publications	0
Project Capital Value	US\$ 20,000,000,000
Books Authored	0
Industry	Petrochemical
Capacity	Client
Position	Project Director
Question 1 - How would you define / describe the concept 'project governance'?	Project governance seeks to ensure both continued best performance as well as full conformance (compliance). Since a project is the starting point of a business, it needs a solid platform for future sustainability. Project governance is also a tool to address the project risks in a systematic way.

Key Words / Phrases Project performance, risk

Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Current frameworks and practices address only a portion of the field in project governance. The reason is that too little is understood about what governance is all about and a very narrow view is taken on project risk.
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Key Words / Phrases Yes, little about risk, not commonly understood

Question 3 - What are the similarities between corporate governance and project governance?	The principals of governance are the same in both areas. The systems applied have a degree of overlap. Should be proactive in both areas. Corporate governance includes project governance.
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Key Words / Phrases PG subset of CG, proactive, overlapping

Question 4 - What are the differences between corporate governance and project governance?	A large portion of corporate governance is covered by laws / regulations / audits / standards / etc., whereas project governance is mostly covered by board / company requirements and industry best practice. Disclosure in corporate governance is defined more clearly than with project disclosure.
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Key Words / Phrases Not same level of disclosure

Question 5 - What are the differences between project control and project governance?	Project controls cover only a portion of the bigger project governance area.
--	--

Key Words / Phrases PC is a subset of PG

Question 6 - To what extent should a project governance model for large capital projects be project specific, country specific or	Depending on the impact of the project on the business, all projects should have a specific element regarding governance and, naturally, all projects will have a generic element.
--	--



generic?

Key Words / Phrases Generic base with room for specifics

Question 7 - Much effort currently goes towards the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Most of the global projects will require project specific requirements, most of which will be determined by the financiers, governments and different joint venture partners. The above entities will automatically impose their governance requirements. What remains as common governance requirements will be the topic of debate as to whether this necessitates a global model. I believe an area where a start could be made is the project outcomes and risk aspects.

Key Words / Phrases Definition of outcomes and risks, financiers input will be key.

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

It is essential to be incorporated.

Key Words / Phrases Essential

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

It should not be forgotten that self-governance should play a very important part. Self-governance is normally focussed on adding more value and thereby ensuring that business objectives are met in a better and more effective way. External governance is seen as a need 'someone else' has and is handled in a way to satisfy those needs, which usually does not get integrated well with the business objectives.

Key Words / Phrases PG not a substitute for self-governance.



Respondent 2:

Name	Respondent 2
Age	51+
Country	RSA
Qualification	B-degree
Experience	25
International Publications	0
Project Capital Value	US\$ 1,000,000,000
Books Authored	0
Industry	Petrochemical
Capacity	Client
Position	Project Director
Question 1- How would you define / describe the concept 'project governance'?	Set the rules Check compliance Establish deviations (trends) Amend rules if necessary The above refers to: Change Control, Human resources, Financial, Schedule, Cost, Construction, Engineering, Risk. It includes legal and own compliance.
Key Words / Phrases	Rules, compliance, risk
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	It is mainly limited to money: Invoices Processes Claims
Key Words / Phrases	Limited to money
Question 3 - What are the similarities between corporate governance and project governance?	The one is a mirror image of the other. A project is a business in its own right. The level and detail of reporting differs.
Key Words / Phrases	Similar, difference in level of reporting
Question 4 - What are the differences between corporate governance and project governance?	The level of detail. More directed towards legal compliance.
Key Words / Phrases	Detail, legal
Question 5 - What are the differences between project control and project governance?	This is the same as for quality control and quality assurance. Project control: The operational activities and techniques required to verify whether requirements are met. Project governance: Planned and systematic actions to provide adequate confirmation that requirements will be satisfied.
Key Words / Phrases	PG is proactive, set the scene



Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

As indicated above, there are various layers of authority that set legal requirements (international, national, provincial, municipal) that must be complied with. This means that the generic model can be used as a guide to formulate the project specific model. For own compliance of rules, the same applies.

Key Words / Phrases Generic base with room for specifics

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

No comment

Key Words / Phrases

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

No comment

Key Words / Phrases

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

No comment

Key Words / Phrases

Respondent 3:

Name	Respondent 3
Age	51+
Country	RSA
Qualification	B-degree
Experience	20
International Publications	0
Project Capital Value	US\$ 200,000,000
Books Authored	0
Industry	Mining
Capacity	Client
Position	Project Manager
Question 1- How would you define / describe the concept 'project governance'?	This should clearly spell out all the project why's and the what's required by the client but not the how's at this stage.
Key Words / Phrases	Client requirements
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Yes, because most of the clients are not competent in project management and do not know what is needed for effective project execution.
Key Words / Phrases	Yes, insufficient systems
Question 3 - What are the similarities between corporate governance and project governance?	Project governance should refer to corporate governance matters relevant to the project - e.g. financial control, BEE, standards, procedures, etc
Key Words / Phrases	Project governance should refer to corporate governance
Question 4 - What are the differences between corporate governance and project governance?	Again project governance should refer to corporate governance matters relevant to the project - e.g. Financial control, BEE, standards, procedures, etc.
Key Words / Phrases	Project governance should refer to corporate governance.
Question 5 - What are the differences between project control and project governance?	Project control is the 'How' - detail matters. Project governance refers to ? and project control must have the detail on how to execute.
Key Words / Phrases	Project control is a subset of project governance
Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?	Project specific - High Company specific - High Country specific - Medium Generic - Medium
Key Words / Phrases	Generic base with room for specifics



Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Senior management must understand project management and must get involved and not only support projects. Competent project staff are vital.

Key Words / Phrases

Understanding by senior management. Requires competence.

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

Role players must be competent in project management e.g. skills, knowledge, experience, management and leadership on projects and not only know how to run a business.

Key Words / Phrases

Competence and knowledge regarding projects

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

Project governance should be clearly spelled out in the company project methodology. Methodologies normally do not exist and hence the reason for project over-runs (cost, time and quality).

Key Words / Phrases

Project governance part of methodology



Respondent 4:

Name	Respondent 4
Age	51+
Country	RSA
Qualification	B-degree
Experience	25
International Publications	0
Project Capital Value	US\$ 1,000,000,000
Books Authored	0
Industry	Infrastructure
Capacity	Client
Position	Project Manager
Question 1- How would you define / describe the concept 'project governance'?	The process of managing the project in terms of best practices and applicable laws with adherence to ethical principles.
Key Words / Phrases	Laws, principles, ethics, best practices
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Not necessarily. Depends on the integrity of the client and contractor and the image they have and want to portray / uphold.
Key Words / Phrases	Maybe, level of integrity
Question 3 - What are the similarities between corporate governance and project governance?	Different 'business', but the same rules should apply.
Key Words / Phrases	Same rules should apply
Question 4 - What are the differences between corporate governance and project governance?	'Corporate' may imply a business existing to make a profit, whereas a 'project' may have to be done to create a platform / infrastructure to eventually make a profit.
Key Words / Phrases	Difference in objectives / profit approach
Question 5 - What are the differences between project control and project governance?	Control is understood to be part of the project management process, whilst the governance part applies to the total project management.
Key Words / Phrases	Control involves process, project governance involves overall project management
Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?	A generic model could do, with adaptations to suit the particular business or environment.
Key Words / Phrases	Generic base with specifics



Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Global trends should be considered. Different role players may expect specific aspects, especially when it comes to the parties that provide the funds.

Key Words / Phrases Global view with financier inputs to be considered.

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

Difficult concept. No comment

Key Words / Phrases

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

Why does it not yet exist? Who wants it and what will entice parties to adopt and apply it? It has to be simple and practical so that ordinary 'project managers' can understand it, see the value and use it!

Key Words / Phrases Simplicity, practical



Respondent 5:

Name	Respondent 5
Age	51+
Country	RSA
Qualification	M-degree
Experience	25
International Publications	0
Project Capital Value	US\$ 800,000,000
Books Authored	0
Industry	Mining
Capacity	Client
Position	Project Director
Question 1- How would you define / describe the concept 'project governance'?	Management of the delivery of the business case

Key Words / Phrases Delivering a business case

Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.

Generally they do fail because they are focused on project delivery not business case delivery.

Key Words / Phrases Yes, project - not business focused

Question 3 - What are the similarities between corporate governance and project governance?

Corporate governance delivers the overall business value; project governance delivers individual project business benefits. Project governance is a subset of corporate governance.

Key Words / Phrases Project governance is a subset of corporate governance

Question 4 - What are the differences between corporate governance and project governance?

Corporate is continuous, project is time bound.

Key Words / Phrases Different timeframes

Question 5 - What are the differences between project control and project governance?

Project control is focused on project delivery; project governance on business benefit delivery.

Key Words / Phrases Project governance focus on business delivery

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

Generic models should be applicable to most organisations.

Key Words / Phrases Generic



Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Global corporate governance standards should consider project governance.

Key Words / Phrases Align project governance with corporate governance

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

It is not clear what is meant by 'liability'. If accountability is meant - project governance models must clearly show accountability vested in each role.

Key Words / Phrases Must be clear on accountability

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

Key Words / Phrases

Respondent 6:

Name	Respondent 6
Age	51+
Country	UK
Qualification	M-degree
Experience	25
International Publications	0
Project Capital Value	US\$ 1,000,000,000
Books Authored	0
Industry	Infrastructure
Capacity	Consultant
Position	Project Director
Question 1- How would you define / describe the concept 'project governance'?	The necessary internal controls (approval, reporting and escalation) associated with project delivery, but integrated with corporate governance, in support of overall board responsibility to deliver against commitments.
Key Words / Phrases	Internal controls, integrate with corporate governance, deliver against commitments
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	The framework and practices are available and, in many cases, in place. However, it is more the understanding and appropriate application that fails projects. There is also the issue of cultural and behavioural attitudes that need to change so that risk is fully assessed and understood, rather than making key investment decisions on 'gut feeling'.
Key Words / Phrases	No - failure in understanding and application
Question 3 - What are the similarities between corporate governance and project governance?	It is about applying controls appropriate to the risk of delivering the expected outcomes of either shareholders or stakeholders. This normally links though focused controls covering risk and value management, financial management and delivery management (time, cost and outcome (quality).
Key Words / Phrases	Same
Question 4 - What are the differences between corporate governance and project governance?	Corporate governance tends to focus on delivering commitments through a 'steady state' business, as opposed to usual environments where processes have been clearly defined and normally mature. Projects tend to operate in a dynamic environment, where rapid decision-making is essential to maintain progress and this requires a clearly delegated authority framework, combined with short tolerance based escalation and feedback processes. Project governance must be integrated with corporate governance and is further complicated where a supply or delivery chain is involved.
Key Words / Phrases	Timeframes - requires different speeds i.t.o. decision making. Integrate project governance with corporate



governance

Question 5 - What are the differences between project control and project governance?

Project control is the complementary mechanistic processes (change control, risk and issue management, requirements capture, gateways and procurement, for example) to be followed to support good project governance. Governance is the structure, cultural and operating environment created to support the delivery, and includes engagement of shareholders, ensuring strategic alignment with the business needs and using information in support of the decision-making process. Controls provide systematic comfort, governance supports, making it happen effectively and efficiently.

Key Words / Phrases

Project control is a subset of project governance. Project governance sets the environment for project control

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

I would subscribe to a project governance model being generic as this creates a common language. There are examples of good project governance model available through Achieving Excellence in Construction, PRINCE2 and Managing successful Programme Effectively. Linking construction projects with the corporate concepts of these methodologies is possible and would be a great step forward - allow them to use the existing models and tools that they are good at and integrate these with corporate models, allowing consistency to be established at the right level.

Key Words / Phrases

Generic

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Where large-scale projects are globally funded, such principles are essential to ensure visibility and transparency up and down the supply and delivery chains. This is essential where delivery takes place in countries where governance is talked about but not practiced!!! Many construction projects are funded through individual investment and there is a need to ensure that the money is spent on what it was intended for ... particularly in developing countries or following major disasters. The challenge is not about the process, but about changing hearts and minds, as well as behaviour.

Key Words / Phrases

Financier input

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

I feel that liability is not so much a governance issue but a legal, commercial and procurement issue - it is important that these issues are resolved outside of the delivery focus.

Key Words / Phrases

Liability not directly part of governance



Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The Office of Government Commerce has done a great deal to put in place some governance control guidance that acts as a framework covering business transformation projects as well as construction projects. This guidance should be viewed like a cooking recipe - the ingredients are the same worldwide, but it is the chef that makes the difference ... adding the right amount of the appropriate ingredients to produce a quality meal based on understanding each guest's tolerances, including allergies!!!

Key Words / Phrases



Respondent 7:

Name	Participant 7
Age	51+
Country	RSA
Qualification	B-degree
Experience	20
International Publications	0
Project Capital Value	US\$ 300,000,000
Books Authored	0
Industry	Mining
Capacity	Client
Position	Project Manager
Question 1- How would you define / describe the concept 'project governance'?	Effective execution of capital projects to international financial and governmental requirements.

Key Words / Phrases Execution, international requirements

Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.

To a large degree, yes, as most PM groups lack understanding of international requirements.

Key Words / Phrases Yes, lack understanding of international requirements

Question 3 - What are the similarities between corporate governance and project governance?

There are certain management and reporting requirements that align to each other (e.g. legal compliances).

Key Words / Phrases Same w.r.t. management and reporting

Question 4 - What are the differences between corporate governance and project governance?

Corporate deals with company structures, reporting thereon, etc. Project governance takes the corporate and other requirements to the individual project, which often require unique agreements, reporting requirements, etc. (e.g. IMF).

Key Words / Phrases Project governance brings corporate governance to the project.

Question 5 - What are the differences between project control and project governance?

Project control deals with the day-to-day running of the project in terms of time, cost, quality, etc. Governance deals with the strategic issues relating to that particular project (e.g. offshore banking).

Key Words / Phrases Project control - day-to-day, Project governance is more strategic

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

Difficult to state categorically, but there are a number of common issues, no matter what company or country.



Key Words / Phrases Generic base with room for specifics

Question 7 - Much effort currently goes in the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

There is a need for PM groups to determine commonality of principles, no matter where a project is to be executed. From this, a guideline can be established on what are generic and what can be and are specific to an individual country.

Key Words / Phrases Obtain common principles, generic for overall application

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

This is dependent on the authority given within individual companies / practices. An ideal subject for work shopping amongst practitioners.

Key Words / Phrases Not clear, dependant on stakeholders

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

Many international projects suffer due to a lack of attention to the governance issues, particular to the country concerned. More time and cost is necessary for obtaining local legal opinion and guidance, particularly in some of the less common international issues that pertain to that particular country (e.g. local area development support expectation).

Key Words / Phrases Use generic and customise to country / project

Respondent 8:

Name	Respondent 8
Age	51+
Country	USA
Qualification	PhD-degree
Experience	35
International Publications	10
Project Capital Value	US\$ 0
Books Authored	3
Industry	Academic
Capacity	Client
Position	Project Manager
Question 1- How would you define / describe the concept project governance?	Rules to govern decision-making, including election and appointment of directors, managers, etc.

Key Words / Phrases Rules, decision-making, appointment of authorities

Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Yes, they adopt a contractual risk allocation / shedding approach. It fails in the face of significant changes from baseline conditions.
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Key Words / Phrases Yes - focus too much on contractual risk allocation

Question 3 - What are the similarities between corporate governance and project governance?	Long term ability to weather significant changes in their environment.
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Key Words / Phrases

Question 4 - What are the differences between corporate governance and project governance?	Projects have a finite lifetime and clearer goals. But they also often face more organised opposition.
---	--

Key Words / Phrases Timeframe

Question 5 - What are the differences between project control and project governance?	Control comes from the days when a plan remained a good plan. Control is about correcting deviations from a plan. This approach breaks down when "the world turns faster than the project churns"!
--	--

Key Words / Phrases

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?	All of the above. Governance needs to accommodate values like collectivism vs. individualism, etc. And it needs to address the kinds of decisions needed by different classes of projects.
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Key Words / Phrases Generic base with room for specifics. Accommodate different levels of decision-making



Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

The countries in which many global infrastructure projects are being built have no rule of law, no property rights, etc., which is not true in those places where corporate governance is being promoted.

Key Words / Phrases Apply to countries with no / weak CG

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

Question unclear

Key Words / Phrases

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

Key Words / Phrases



Respondent 9:

Name	Participant 9
Age	51+
Country	UK
Qualification	B-degree
Experience	10
International Publications	
Project Capital Value	US\$ 200,000,000
Books Authored	
Industry	Petrochemical
Capacity	Client
Position	Project Manager
Question 1- How would you define / describe the concept 'project governance'?	<p>Project governance is the set of management systems, protocols and relationships between a project's stakeholders and its executive managers. Typically it is represented by a board of stakeholders that approves the arrangements for the proper control of the project and sets the policies and standards for the way the project interacts with (say) government, the public, statutory authorities, banks, and so on. A system of governance will often comprise high level statements about how the project will be reviewed; how major scope changes will be handled; risk management standards; authorisations; communications; audit; the upkeep and management of the business case; the management of contingency; ethical standards; employment policies, and so on.</p>
Key Words / Phrases	Relationship between stakeholders and executive, protocols, risk, audit, business case, ethics, policies, procedures
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	The components of project governance are all there, but it's not treated as an integrated subject.
Key Words / Phrases	Yes - available but not integrated
Question 3 - What are the similarities between corporate governance and project governance?	They address the same range of issues.
Key Words / Phrases	Same
Question 4 - What are the differences between corporate governance and project governance?	Corporate governance applies to an ongoing enterprise and so it gives greater emphasis to longer term issues than might apply to a project - such as business continuity. However, the longer and larger the project, the more its governance takes on the aspect of corporate governance.
Key Words / Phrases	Timeframe



Question 5 - What are the differences between project control and project governance?

See my first answer. For example, project control does not encompass policies on ethics or the requirements of 'local content'.

Key Words / Phrases Project governance operates at a more strategic level

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

The right balance needs to be struck between the benefits of a comprehensive system of governance and the excessive imposition of constraints on the project. Broad principles, checklists and so on are helpful. But then the particular circumstances need to be examined and the 'least' amount of governance imposed consistent with safeguarding the project.

Key Words / Phrases Generic base with room for specifics

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

The danger is that nobody ever recommends 'less' governance. So, in the build up to something 'global', the constraints and requirements pile up to the point where the project team are diverted from doing the job and spend their time complying with the 'rules'. The real intellectual challenge (far harder than making long lists) is to devise a generic standard of efficiency and effectiveness for project governance. This finesses the difficulties of culture, project size, contract strategy and so on. ? The generic guidance should help the project sponsors find the least 'quantity' of project governance sufficient to meet their specific needs.

Key Words / Phrases Difficulty in simplicity, danger in 'too many' rules.

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

Not sure. But I observe that governance boards work best in non-adversarial circumstances.

Key Words / Phrases Beware of adversity

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

I'd refer you to the UK Association for Project Management's guide to the governance of project management. Not quite the same thing, but a useful stepping off point.

Key Words / Phrases



Respondent 10:

Name	Respondent 10
Age	51+
Country	RSA
Qualification	B-degree
Experience	27
International Publications	0
Project Capital Value	US\$ 3,000,000,000
Books Authored	0
Industry	Mining
Capacity	Client
Position	Project Director
Question 1- How would you define / describe the concept 'project governance'?	A collection of policies, procedures and processes applied to obtain the best value for funds employed by an investor consistent with the final objectives as defined by the investor.
Key Words / Phrases	Rules, policies, procedures, business case as defined by the investor.
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	In most cases, frameworks and practices do not fail to address project governance. Failure in project governance often occurs because recognised frameworks and practices are not adhered to.
Key Words / Phrases	No – frameworks available but not adhered to
Question 3 - What are the similarities between corporate governance and project governance?	Noting that project governance is aimed at more specific goals and timeframes, and corporate governance tends to be continuous over broader goals and timeframes, the policies, processes and procedures are the same.
Key Words / Phrases	Same, differ only in time
Question 4 - What are the differences between corporate governance and project governance?	Specificity of goals and timeframes.
Key Words / Phrases	Timeframes
Question 5 - What are the differences between project control and project governance?	Project controls are part of the procedures and processes that contribute to project governance.
Key Words / Phrases	Project control is a subset of project governance
Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?	The project governance model for large capital projects should not vary to any large degree from project to project, company to company or country to country. However, certain policies, procedures and processes may vary to satisfy specific requirements.



Key Words / Phrases Generic base with room for specifics

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Within the broad challenge stated here, there are many contributing challenges. The fundamental challenge is to overcome the inflexibility of corporate managers, project managers and fiscal regimes to accept common standards for project governance.

Key Words / Phrases Overcoming resistance from stakeholders

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

If project performance is well defined and variation policies and procedures are well defined and applied, liability can be ascribed and incorporated. Noting that few individuals or companies have the capacity to take unlimited liability.

Key Words / Phrases Limited liability

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

There are a number of project governance models available in the global corporate environment. The failure to implement these has, in most cases, caused project governance to fail.

Key Words / Phrases Practical

Note: No references were given or supplied with respect to the 'project governance frameworks' referred to.



Respondent 11:

Name	Respondent 11
Age	41-50
Country	UK
Qualification	B-degree
Experience	22
International Publications	
Project Capital Value	US\$ 12,000,000,000
Books Authored	
Industry	Transport & Infrastructure
Capacity	Consultant
Position	Project Director
Question 1- How would you define / describe the concept 'project governance'?	The common industry association with 'project governance' is in relation to the formal monitoring and auditing of a project and is normally associated with public sector projects. This misses the fact that all projects are governed to a greater or lesser degree and that 'project governance' is simply another term for 'project management'. What differentiates governance from management is one is seen as a formal process of recording, whilst the other is more the action of implementing. To me, project governance and project management are one and the same; the subtle difference being that the term governance is associated with the processes of ensuring accurate records are kept of the decisions made in implementing and managing a project. For instance, establishing systems for recording meetings, monitoring progress, accounting for project costs, recording decisions, checking designs, etc., all form part of project governance and are used to manage the project by the management team.

Key Words / Phrases Auditing, monitor, recording

Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.

In answering this question, one first needs to establish the benchmark against which a judgement can be made. Each project and each client will require a different level of governance to be applied, and so what may be sufficient for one project, may fall well short for another. Many current project management systems are process driven and are not intuitive. This means that it is possible to fully comply with a defined level of governance, yet still fail to deliver the right project to a client. Most systems fail to account for the non-linear nature of a project and the heavy reliance on individual experience and knowledge. It is not practices that need to be addressed, but rather the risks associated with poor judgement.

Key Words / Phrases Yes - experience, integration, require different levels



Question 3 - What are the similarities between corporate governance and project governance?

The scope for corporate governance has expanded over the last twenty years from a financial based state to one that includes other legal requirements associated with health and safety legislation and equal opportunities, etc. Project governance also has to demonstrate compliance at a financial and health and safety level.

Key Words / Phrases Follow corporate governance developments

Question 4 - What are the differences between corporate governance and project governance?

Corporate governance is more a macro state, whereas project governance may have to operate at the micro state. Again, the differences are greater only as a consequence of the needs of the client.

Key Words / Phrases Project governance micro, corporate governance macro level

Question 5 - What are the differences between project control and project governance?

Project control is the level at which the project management team and/or the client wish to retain executive power. Project governance is the system that is used to measure and record the project as it progresses. Project governance can operate without control, but control is control.

Key Words / Phrases Project control is at project management level. Project governance at macro level

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

Generic models are a good starting point and many elements of the generic model will be found in bespoke models, whether they be project, company or country specific. The greatest danger is to try to develop a generic model that can be applied to all specific situations, as this model becomes cumbersome and a hindrance to the delivery and management of the project.

Key Words / Phrases Generic base with room for specifics

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

The development of global governance principles are of benefit to large corporate organisations, governments and world organisations, such as the World Bank, as it allows them to benchmark projects against a target and reduces the learning curve for their audit teams. Many of the core building blocks of project governance can be combined into a global model: however, such a model runs the risk that it will simply become too cumbersome and impractical to use, and will itself become the driver for projects, rather than a tool to assist the management team and client.

Key Words / Phrases Difficulty in simplicity and practicality



Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

Not quite sure what you are getting at? Is this about pain / gain clauses in contracts??

Key Words / Phrases

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

A governance system should allow flexibility for the management team to respond to the changing nature of a project, but do so in a way that ensures the decisions made are correctly documented.

Key Words / Phrases

Framework for decision-making



Respondent 12:

Name	Respondent 12
Age	41-50
Country	RSA
Qualification	M-degree
Experience	27
International Publications	
Project Capital Value	US\$ 2,500,000,000
Books Authored	1
Industry	Transport & Infrastructure
Capacity	Consultant
Position	Project Director
Question 1- How would you define / describe the concept 'project governance'?	The application of the highest standard of ethics to the management and implementation of projects.
Key Words / Phrases	Ethics
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Yes - insufficient attention is given to the potential risk of self-interest and conflict of interest between the various parties involved.
Key Words / Phrases	Yes - conflict of interest
Question 3 - What are the similarities between corporate governance and project governance?	Both involve the application of ethical standards.
Key Words / Phrases	Same in ethical standards
Question 4 - What are the differences between corporate governance and project governance?	The different interests of the stakeholders and interest groups The relatively short term nature of projects compared to long term interests of corporations.
Key Words / Phrases	Different sets of stakeholder interest due to timeframes
Question 5 - What are the differences between project control and project governance?	Control implies ensuring things are done; governance implies ensuring the correct things are done.
Key Words / Phrases	Project governance is validating
Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?	The more generic the better, it can be adapted to specifics. The King II Report on corporate governance is a good example of how generic / specific balance can be struck.
Key Words / Phrases	Generic



Question 7 - Much effort currently goes in the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Challenge is to get companies to accept and manage the principles. It might be an option to make it part of ISO 9000 on Total Quality Management.

Key Words / Phrases Implementation challenge, standardise

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

Liability can be incorporated by including it in the Total Quality Manual of the company.

Key Words / Phrases Part of quality system

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

Key Words / Phrases

Respondent 13:

Name	Respondent 13
Age	41-50
Country	RSA
Qualification	PhD
Experience	22
International Publications	0
Project Capital Value	US\$ 450,000,000
Books Authored	
Industry	Petrochemical
Capacity	Client
Position	Project Manager
Question 1- How would you define / describe the concept 'project governance'?	Project Governance involves the methodologies, structures and processes whereby the project is directed (the setting of project objectives in line with business strategy and objectives) and controlled (the hands-on activity of executing or supervising project resources' actions) to achieve the predetermined project objectives.
Key Words / Phrases	Structures and processes, link business objectives / strategies with project
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	No. The phased gate process approach provides a framework for governance to ensure that business risk is minimised and opportunities maximised. Yes, when there is a lack of discipline or lack of understanding to follow the phased gate process.
Key Words / Phrases	PM frameworks to be used, lack of discipline in application
Question 3 - What are the similarities between corporate governance and project governance?	The requirements to: comply with regulations and legislation, to lead / direct and control activities and transparent reporting to stakeholders. The financial governance and control is highly structured and automated in an integrated workflow process and system.
Key Words / Phrases	Compliance to rules and regulations, financial governance
Question 4 - What are the differences between corporate governance and project governance?	Project governance is on operational level, whereas corporate governance is on the strategic level. Project financial control is on transactional level, whereas corporate financial direction is done to ensure shareholder value. Project governance is about doing things / projects right, and corporate governance is about doing the right things / projects.
Key Words / Phrases	Project governance operational level, corporate governance strategic



Question 5 - What are the differences between project control and project governance?

Project control is a subset of project governance. Project control involves all activities to ensure compliance to standards (hands on), and project governance involves the structures and activities that ensure that the project meets the project objectives (guidance).

Key Words / Phrases Project control is a subset of project governance

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

The project governance model should be specific as far as the framework for decision-making and risk management and strategic guidance is concerned. Methodologies based best practices should be generic and used as a guideline that should be customised and adopted for the specific country. The controls to ensure compliance will be specific to the governance environment, namely project specific requirements and objectives, the country specifics like culture, legislation, geography and economics.

Key Words / Phrases Generic and adaptable

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

The challenges for a global project governance model are the virtual environment, understanding of the unfamiliar environment, support systems and structures for remote teams.

Key Words / Phrases Remote application. Virtual work

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

The liabilities should be clearly specified in the contract in accordance with legislation and business owner requirements. The necessary governance forums (steering, progress, site and construction meetings) and structures (work teams, management teams, review teams, audit team), supported by sufficient metrics, should be put in place to ensure that the project is proactively controlled and guided towards project success and performance.

Key Words / Phrases Be clear on liabilities in contracts

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The project governance needs to be incorporated in the business processes and should not be an intervention. A blanket approach should not be followed on all projects, but rather tailored according to the risk profile of the project. Self- governance with tools and techniques should be employed as a first prize where possible and sensible.

Key Words / Phrases Be part of business process, not stand-alone. Self-



governance



Respondent 14:

Name	Respondent 14
Age	31-40
Country	Nigeria
Qualification	M-degree
Experience	11
International Publications	0
Project Capital Value	US\$ 1,500,000,000
Books Authored	
Industry	Telecommunications
Capacity	Client
Position	Project Director
Question 1- How would you define / describe the concept 'project governance'?	Project governance, for me, is the framework the organisation provides wherein project officials of the organisation (as well as 3rd parties to the project) must execute projects. The term is all encompassing of the organisation's project management methodology (if any), investment management methodology (if any), and benefit realisation validation, etc. In the listed sector, it will form a subset of corporate governance.

Key Words / Phrases Framework, part of investment and benefits, include 3rd parties, subset of corporate governance

Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	I'd say yes. Most frameworks deal with the how, when and where and does not cover the why. With why, I refer to the fundamental reasons why a project should be done in the first place. It focuses more on project management issues and does not always assist in integrating the project with the business track of the organisation. This can become complex to define across different industries and organisations but the fundamentals should be the same. (Similar to the fundamentals of corporate governance that are universal across countries, industries and organisations).
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Key Words / Phrases Yes - no integration between business and project



Question 3 - What are the similarities between corporate governance and project governance?

To me, project governance is a subset of corporate governance. In the latter it governs the different relationships between management (middle, senior, board) and stakeholders (shareholders and other stakeholders) of organisations, as well as the framework for overall "good" management (plan, lead, operate, control - how measured, etc.) of organisations. Project governance should also define the relationships between the organisation's management (board, senior management, middle management, etc.) and the project stakeholders (project managers, other project professionals, 3rd party professionals, suppliers, contractors, etc.), as well as the framework for the "good" management of projects (methodologies, measures of success, etc.) within the organisation. As per King II reports, etc. where best practice i.t.o. Board structures, etc. is defined, so must project governance define the best practice for project steering committees, etc. Corporate governance is also more focused on the listed company sector, while project governance can span much wider (private companies, government projects, etc.). It overlaps on some level, but not everywhere.

Key Words / Phrases

Subset – Project governance to detail for project management what corporate governance details for organisations! – (Good summary!!!) ?

Question 4 - What are the differences between corporate governance and project governance?

Where CG is holistic i.t.o. listed companies, PG is more focused on specific execution activities within the organisation (listed, private government, etc.). It should focus specific governance requirements to ensure proper management of projects, i.e. provide a specific framework for a project manager to manage within. It is unique in nature and will integrate project management into the organisation.

Key Words / Phrases

Corporate governance for listed companies, project governance more at project level

Question 5 - What are the differences between project control and project governance?

Where project control only really focuses on the execution phase of the project (although control is wider as well) and is fundamentally concerned with cost, quality and schedule management of the specific project (therefore principally focusing on project management track); project governance focuses on the project framework within the business (therefore the business track). Another way of looking at it is to say, the 1st is concerned with how well the project is doing, while the latter should test / question (throughout the project lifecycle) the place, role, function, benefit and validity of the specific project within the organisation's overall existence. Why are we doing this and should we be doing this project, etc.

Key Words / Phrases

Project governance more strategic than project control

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

I think a model should be as generic as possible. This is the starting point. What flows from this will be models (from generic) that focus on different industries, countries, project types, etc. It will come with time as the industry matures and globalisation increases. Whether a project is executed in the listed sector or government, Monrovia or Nigeria, it is still a project (i.e. laws of nature). It will continue to behave like a project and therefore the need for the generic model (laws of project) as a first step.

Key Words / Phrases Generic to be adapted

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

1. People managing organisations do not necessarily understand the project environment.
2. Project managers do not always understand corporate governance and why it's needed. This misalignment is probably the biggest challenge to overcome. People, people, people, and yet again people, is the issue.
3. How long will it take to get project professionals in tune with good corporate practice?
4. Politics may require an outcome of a project totally out of sync with common sense and good project practice.
5. Maybe (sure of it) some entities (governments, organisations, individuals, etc.) do not want improved control for "selfish" reasons.
6. Difference of opinions between professionals on what should be in a global model.
7. Different industry specific requirements, tax structures, government policies (free trade zones, etc.) could play role.
8. Can think of a few more...

Key Words / Phrases (Plenty) – to be considered in practical developments

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

- It should most definitely be incorporated.
1. Common terminology to be established - project sponsor = ...
 2. Fiduciary duties of role players to be established = maybe en-acted? (Like Engineering Act, Company Act as example.) Tangible consequences ...

Key Words / Phrases Be very clear

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

Key Words / Phrases

Respondent 15:

Name	Respondent 15
Age	51-
Country	USA
Qualification	PhD
Experience	43
International Publications	20
Project Capital Value	US\$ 0
Books Authored	8
Industry	Academic
Capacity	Consultant
Position	
Question 1- How would you define / describe the concept 'project governance'?	Project governance consists of the processes by which project related decisions are authorized and determined.

Key Words / Phrases Processes, decisions, authorise

Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Most current project management frameworks address implementation issues and fail to adequately analyze the authority of the project leaders. Project management frameworks primarily focus on implementation issues.
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Key Words / Phrases Yes - current practices focus on implementation.

Question 3 - What are the similarities between corporate governance and project governance?	Corporate governance and project governance are similar in as much as they address the authority of the governing bodies.
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Key Words / Phrases Similar

Question 4 - What are the differences between corporate governance and project governance?	Corporate governance tends to focus on strategic and fiduciary issues. Project governance focuses more on implementation and control issues.
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Key Words / Phrases Corporate governance is strategic, project governance focus on implementation

Question 5 - What are the differences between project control and project governance?	Project control focuses primarily on budget / schedule issues. Project governance focuses more on the authority of the senior project team.
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Key Words / Phrases Project authorities

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?	A project governance model for large capital projects should relate to all of the issues listed. I believe it would be difficult to develop a robust generic model that would apply in all situations. ?
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Key Words / Phrases



Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

A formal global project governance model must focus heavily on authorities and communication challenges. Virtual teams will most likely be used extensively with formal sign-off requirements.

Key Words / Phrases Focus on authority and communication

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

A project governance team should have the same liability as a board of directors. It is their job to carefully preserve project assets and control project expenditures.

Key Words / Phrases Same liability as board of directors

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

This is a very salient current topic, since better project governance should reduce runaway project spending, just as good corporate governance reduces uncontrolled losses.

Key Words / Phrases



Summaries from Respondent feedback:

Name	Results (Delphi Round 1)
Age	
Country	
Qualification	
Experience	372
International Publications	30
Project Capital Value	US\$ 43,950,000,000
Books Authored	12
Industry	
Capacity	
Position	
Question 1- How would you define / describe the concept 'project governance'?	Project governance is a set of management systems, rules, protocols, relationships and structures that provides the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Overwhelmingly YES! Although some guidelines exist on the governance of project management, concerns were raised regarding: <ol style="list-style-type: none"> 1) the definition and management of risk 2) non-alignment and lack of integration with business / strategic parameters 3) authority of project leaders 4) practical application of governance concepts in projects, as well as 5) discipline to refine and apply project governance principles.
Question 3 - What are the similarities between corporate governance and project governance?	General consensus was that, for project governance the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of, corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the board, project governance should do the same for the project steering committee.
Question 4 - What are the differences between corporate governance and project governance?	Corporate governance is very clear regarding the level and detail of financial and legal disclosure, while for project governance the level and type of disclosure is not at all clear. The difference in timeframes requires an alternative approach to the process and speed of decision- making.



Question 5 - What are the differences between project control and project governance?

Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

A project governance model should be largely generic, with room to incorporate project specific and unique requirements.

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Challenges include:

- 1) Accommodating financier's requirements and risks
- 2) application in countries with weak corporate governance
- 3) apply in countries where senior / influential individuals "do not want better control" for selfish reasons
- 4) complexity of globalisation and virtual work
- 5) making project governance simple and practical to apply, as well as
- 6) overcoming stakeholder resistance to "another" form of statutory requirement.

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with board of directors in corporate governance), while the other school of thought argues any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The project governance model should be:

- 1) generic, with the possibility of incorporating project specific requirements
- 2) very practical to use
- 3) a framework for decision-making and
- 4) contain an element that promotes self-governance.

Project governance should reduce runaway project spending just as good corporate governance reduces uncontrolled losses.



Appendix C

Delphi results: Round 2

This appendix contains the detailed feedback given by each respondent during the second Delphi round. The input to the second Delphi round was the consolidated answers derived from the first round. The proposed answers were sent to the sample list of respondents and a total of 7 responded.

To keep the responses anonymous, each respondent was again allocated a number.

Each result table contains:

- The respondent number
- The nine questions, with proposed consolidated answers / descriptions
- Feedback per respondent

The feedback was consolidated and used as input to either a third round of Delphi or the development of the CPGF.

Respondent 1:

Questions	Delphi 1 Results	Respondent 1
Question 1- How would you define / describe the concept 'project governance'?	Project governance is a set of management systems, rules, protocols, relationships and structures that provides the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.	<i>Good</i>
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Overwhelmingly YES! Although some guidelines exist on the governance of project management, concerns were raised regarding: 1) the definition and management of risk 2) non-alignment and integration with business / strategic parameters 3) authority of project leaders 4) practical application of governance concepts in projects, as well as 5) discipline to refine and apply project governance principles. 6)	<i>I agree.</i>
Question 3 - What are the similarities between corporate governance and project governance?	General consensus was that, for project governance the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of, corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the board, project governance should do the same for the project steering committee.	<i>Don't forget the chunkiness of projects vs. the continuous nature of on-going management.</i>
Question 4 - What are the differences between corporate governance and project governance?	Corporate governance is very clear regarding the level and detail of financial and legal disclosure, while for project governance the level and type of disclosure is not at all clear. The difference in timeframes requires an alternative approach to the process and speed of decision-making.	<i>No institutionalized audit culture for projects.</i>
Question 5 - What are the differences between project control and project governance?	Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.	<i>Agree</i>



Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

A project governance model should be largely generic, with room to incorporate project specific and unique requirements.

Yes

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Challenges include:

- 1) Accommodating financier's requirements and risks
- 2) application in countries with weak corporate governance
- 3) apply in countries where senior / influential individuals "do not want better control" for selfish reasons
- 4) complexity of globalisation and virtual work
- 5) making project governance simple and practical to apply, as well as
- 6) overcoming stakeholder resistance to "another" form of statutory requirement.

Agree, especially with #5.

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with board of directors in corporate governance), while the other school of thought argues any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.

Just try to be clear in communications.

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The project governance model should be:

- 1) generic with the possibility of incorporating project specific requirements
- 2) very practical to use
- 3) a framework for decision- making, and
- 4) contain an element that promotes self-governance. Project governance should reduce runaway project spending just as good corporate governance reduces uncontrolled losses.

Agree

Additional comments

None

Respondent 2:

Questions	Delphi 1 Results	Respondent 2
Question 1- How would you define / describe the concept 'project governance'?	Project governance is a set of management systems, rules, protocols, relationships and structures that provides the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.	<i>Sounds just about right – suggest that it is brought into the context on internal controls aligned with good governance.</i>
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Overwhelmingly YES! Although some guidelines exist on the governance of project management, concerns were raised regarding: 1) the definition and management of risk 2) non-alignment and integration with business / strategic parameters 3) authority of project leaders 4) practical application of governance concepts in projects, as well as 5) discipline to refine and apply project governance principles.	<i>We must separate the existing frameworks from that of people's behaviour – if all executives complied with the intent of current frameworks in making decisions then we would see a big shift. We must differentiate between compliance, adherence and assurance.</i>
Question 3 - What are the similarities between corporate governance and project governance?	General consensus was that, for project governance the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of, corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the board, project governance should do the same for the project steering committee.	<i>No comment</i>



Question 4 - What are the differences between corporate governance and project governance?

Corporate governance is very clear regarding the level and detail of financial and legal disclosure, while for project governance the level and type of disclosure is not at all clear. The difference in timeframes requires an alternative approach to the process and speed of decision-making.

We must be absolutely sure about this statement – project management is an internal mechanism for delivering board accountability for delivery. The financial and legal aspects must remain part of the corporate governance function, rather than establishing a different set. With the shift to portfolio management this emphasis becomes even more important as we try to get control of the overall corporate investment plan, which includes delivery through projects.

Question 5 - What are the differences between project control and project governance?

Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.

No comment

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

A project governance model should be largely generic with room to incorporate project specific and unique requirements.

No comment

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome towards the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Challenges include:

- 1) Accommodating financier's requirements and risks
- 2) application in countries with weak corporate governance
- 3) apply in countries where senior / influential individuals "do not want better control" for selfish reasons
- 4) complexity of globalisation and virtual work
- 5) making project governance simple and practical to apply, as well as
- 6) overcoming stakeholder resistance to "another" form of statutory requirement.

Global funding demands robust governance up and down the supply and delivery chain – we need to retain a flexible toolkit that allows us to adopt a risk based control environment.

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with board of directors in corporate governance), while the other school of thought argues any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.

The issue here is that the ultimate accountability for delivering outcomes rests with the board or directors and in governance terms this must not be diluted to project boards. There would appear to be confusion around accountability, responsibility and devolved ownership.

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The project governance model should be:

- 1) generic with the possibility the possibility of incorporating project specific requirements
- 2) very practical to use
- 3) a framework for decision-making, and
- 4) contain an element that promotes self-governance. Project governance should reduce runaway project spending just as good corporate governance reduces uncontrolled losses.

The genesis element allows us all to speak a common language. Project governance, in itself, reduces runaway projects – this totally depends on the attitude and behaviour of those executives filling governance roles.

Additional comments

None

Respondent 3:

Question	Delphi 1 Results	Respondent 3
Question 1- How would you define / describe the concept project governance?	Project governance is a set of management systems, rules, protocols, relationships and structures that provides the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.	<i>No comments</i>
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Overwhelmingly, YES! Although some guidelines exist on the governance of project management, concerns were raised regarding: <ol style="list-style-type: none">1) the definition and management of risk2) non-alignment and integration with business / strategic parameters3) authority of project leaders4) practical application of governance concepts in projects, as well as5) discipline to refine and apply project governance principles.	<i>Concur</i>
Question 3 - What are the similarities between corporate governance and project governance?	General was consensus that, for project governance, the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of, corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the board, project governance should do the same for the project steering committee.	<i>Concur</i>
Question 4 - What are the differences between corporate governance and project governance?	Corporate governance is very clear regarding the level and detail of financial and legal disclosure, while for project governance the level and type of disclosure is not at all clear. The difference in timeframes requires an alternative approach to the process and speed of decision- making.	<i>Agreed</i>
Question 5 - What are the differences between project control and project governance?	Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.	

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

A project governance model should be largely generic, with room to incorporate project specific and unique requirements.

Agreed

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Challenges include:

- 1) Accommodating financier's requirements and risks
- 2) application in countries with weak corporate governance
- 3) apply in countries where senior / influential individuals "do not want better control" for selfish reasons
- 4) complexity of globalisation and virtual work
- 5) making project governance simple and practical to apply, as well as
- 6) overcoming stakeholder resistance to "another" form of statutory requirement.

Agreed

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with board of directors in corporate governance), while the other school of thought argues any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.

Suggest legal opinion

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The project governance model should be:

- 1) generic, with the possibility of incorporating project specific requirements
- 2) very practical to use
- 3) a framework for decision- making, and
- 4) contain an element that promotes self-governance. Project governance should reduce runaway project spending just as good corporate governance reduces uncontrolled losses.

Agreed

Additional comments

None

Respondent 4:

Question	Delphi 1 Results	Respondent 4
Question 1 - How would you define / describe the concept 'project governance'?	Project governance is a set of management systems, rules, protocols, relationships and structures that provides the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.	<i>... within which decisions are made, progress is monitored, activities controlled and variations managed, for project...</i>
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Overwhelmingly YES! Although some guidelines exist on the governance of project management, concerns were raised regarding: <ol style="list-style-type: none">1) the definition and management of risk2) non-alignment and integration with business / strategic parameters3) authority of project leaders4) practical application of governance concepts in projects, as well as5) discipline to refine and apply project governance principles.	<i>The failure, in general, to ascribe or accept accountability needs to be noted.</i>
Question 3 - What are the similarities between corporate governance and project governance?	General consensus was that, for project governance the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of, corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the board, project governance should do the same for the project steering committee.	<i>Agreed</i>
Question 4 - What are the differences between corporate governance and project governance?	Corporate governance is very clear regarding the level and detail of financial and legal disclosure, while for project governance the level and type of disclosure is not at all clear. The difference in timeframes requires an alternative approach to the process and speed of decision-making.	<i>Agreed</i>

Question 5 - What are the differences between project control and project governance?

Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.

Agreed

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

A project governance model should be largely generic with room to incorporate project specific and unique requirements.

Agreed

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Challenges include:

- 1) Accommodating financier's requirements and risks
- 2) application in countries with weak corporate governance
- 3) apply in countries where senior / influential individuals "do not want better control" for selfish reasons
- 4) complexity of globalisation and virtual work
- 5) making project governance simple and practical to apply, as well as
- 6) overcoming stakeholder resistance to "another" form of statutory requirements

The reality that making things more difficult to do results in things not being done should emerge in this response. There is an overwhelming challenge to make good project governance do-able, without making things more complicated or cumbersome.

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with board of directors in corporate governance), while the other school of thought argues any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.

I support the school that proposes defined liability and accountability. The relationships have to be sorted out before the action starts on a basis of well defined roles, responsibilities, accountabilities and liabilities. Legal terms are often the obstacle.



Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The project governance model should be:

- 1) generic, with the possibility of incorporating project specific requirements
- 2) very practical to use
- 3) a framework for decision-making, and
- 4) contain an element that promotes self-governance. Project governance should reduce runaway project spending just as good corporate governance reduces uncontrolled losses.

Additional comments

The element of legal standing of the project governance model is inadequately addressed in this list of responses. Sound project governance is based on a real integration with the legal regime of the environment in which the project is developed.

Respondent 5:

Name	Delphi 1 Results	<i>Respondent 5</i>
Question 1- How would you define / describe the concept 'project governance'?	Project governance is a set of management systems, rules, protocols, relationships and structures that provides the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.	<i>Governance is mostly about two kinds of rules: 1) rules that define the access and participation rights of stakeholders in setting goals and direction for a project; and 2) rules for ensuring transparency and accountability to eliminate corruption, nepotism, etc. Everything else is either included in leadership or management, as they are typically understood.</i>
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Overwhelmingly YES! Although some guidelines exist on the governance of project management, concerns were raised regarding: 1) the definition and management of risk 2) non-alignment and integration with business / strategic parameters 3) authority of project leaders 4) practical application of governance concepts in projects, as well as 5) discipline to refine and apply project governance principles.	<i>Yes, especially with regard to defining rights of access and channelling the participation of stakeholders.</i>
Question 3 - What are the similarities between corporate governance and project governance?	General consensus was that, for project governance the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of, corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the board, project governance should do the same for the project steering committee.	<i>The long expected duration on ongoing enterprises means that they must have rules (e.g. in their articles of incorporation and by-laws) about how to set up processes and participation rights for making changes in function, structure and behaviour of the enterprise to deal with drastically different circumstances. AS BOT and similar private / public partnership projects extend the duration of projects out to 30 years and more -</i>



the same sets of issues arise. Such projects should have the equivalent of articles and by-laws that can address not just governance of the investing corporation, its shareholders, managers and directors, but also governance of a much wider group of stakeholders, who may assert legitimate - or illegitimate - claims against the assets of the long-lived project.

Question 4 - What are the differences between corporate governance and project governance?

Corporate governance is very clear regarding the level and detail of financial and legal disclosure, while for project governance the level and type of disclosure is not at all clear. The difference in timeframes requires an alternative approach to the process and speed of decision-making.

No comment

Question 5 - What are the differences between project control and project governance?

Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.

Some aspects of project control are associated with governance. Others are associated with management of project. For governance purposes, reports and audits should be carried out by disinterested third parties.

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

A project governance model should be largely generic, with room to incorporate project specific and unique requirements.

I disagree strongly, there are so many different kinds of projects that one would have totally different kinds of governance arrangements for the design and construction of a major office building versus the shaping, conceptual design, design, construction

and operation of a long-lived BOT project.

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Challenges include:

- 1) Accommodating financier's requirements and risks
- 2) application in countries with weak corporate governance
- 3) apply in countries where senior / influential individuals "do not want better control" for selfish reasons
- 4) complexity of globalisation and virtual work
- 5) making project governance simple and practical to apply, as well as
- 6) overcoming stakeholder resistance to "another" form of statutory requirement.

One of the major issues - perhaps the major issue - associated with development of such projects is the way in which fees will be regulated over the long life of the project. This was the downfall of projects such as Dhabol (power - India) and Cochabamba (water supply - Bolivia).

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with board of directors in corporate governance), while the other school of thought argues any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.

If adversarial issues are handled outside of corporate governance, we will never evolve a common law to help us shape the governance of large projects. International treaties regarding mediation and arbitration are beginning to create a relatively standard way for dealing with at least some situations.

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The project governance model should be:

- 1) generic, with the possibility of incorporating project specific requirements
- 2) very practical to use
- 3) a framework for decision-making, and
- 4) contain an element that promotes self-governance. Project governance should reduce runaway project spending just as good corporate governance reduces uncontrolled losses.

Additional comments

No comments

Respondent 6:

Questions	Delphi 1 Results	Respondent 6
Question 1- How would you define / describe the concept 'project governance'?	Project governance is a set of management systems, rules, protocols, relationships and structures that provides the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.	OK
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Overwhelmingly YES! Although some guidelines exist on the governance of project management, concerns were raised regarding: 1) the definition and management of risk 2) non-alignment and integration with business / strategic parameters 3) authority of project leaders 4) practical application of governance concepts in projects as well as 5) discipline to refine and apply project governance principles.	OK
Question 3 - What are the similarities between corporate governance and project governance?	General consensus was that, for project governance the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of, corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the board, project governance should do the same for the project steering committee.	Agree
Question 4 - What are the differences between corporate governance and project governance?	Corporate governance is very clear regarding the level and detail of financial and legal disclosure, while for project governance the level and type of disclosure is not at all clear. The difference in timeframes requires an alternative approach to the process and speed of decision- making.	<i>The project environment is much more dynamic than a corporate environment, so governance processes and frameworks must be more responsive.</i>



Question 5 - What are the differences between project control and project governance?

Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.

OK

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

A project governance model should be largely generic, with room to incorporate project specific and unique requirements.

OK

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Challenges include:

- 1) Accommodating financier's requirements and risks
- 2) application in countries with weak corporate governance
- 3) apply in countries where senior / influential individuals "do not want better control" for selfish reasons
- 4) complexity of globalisation and virtual work
- 5) making project governance simple and practical to apply, as well as
- 6) overcoming stakeholder resistance to "another" form of statutory requirement.

Agree

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with board of directors in corporate governance), while the other school of thought argues any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.

Role player liability should read 'role player accountability', as I understand the question. The governance framework should place appropriate performance and compliance requirements (appropriate at all levels) on those accountable for project benefits delivery.



Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The project governance model should be:

- 1) generic, with the possibility of incorporating project specific requirements
- 2) very practical to use
- 3) a framework for decision-making, and
- 4) contain an element that promotes self-governance. Project governance should reduce runaway project spending just as good corporate governance reduces uncontrolled losses.

No comments

Additional comments

No comments

Respondent 7:

Questions	Delphi 1 Results	Respondent 7
Question 1- How would you define / describe the concept 'project governance'?	Project governance is a set of management systems, rules, protocols, relationships and structures that provides the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.	OK
Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.	Overwhelmingly YES! Although some guidelines exist on the governance of project management, concerns were raised regarding: 1) the definition and management of risk 2) non-alignment and integration with business / strategic parameters 3) authority of project leaders 4) practical application of governance concepts in projects as well as 5) discipline to refine and apply project governance principles.	OK
Question 3 - What are the similarities between corporate governance and project governance?	General consensus was that, for project governance the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of, corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the board, project governance should do the same for the project steering committee.	OK
Question 4 - What are the differences between corporate governance and project governance?	Corporate governance is very clear regarding the level and detail of financial and legal disclosure, while for project governance the level and type of disclosure is not at all clear. The difference in timeframes requires an alternative approach to the process and speed of decision- making.	OK
Question 5 - What are the differences between project control and project governance?	Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.	OK

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

A project governance model should be largely generic, with room to incorporate project specific and unique requirements.

OK

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Challenges include:

- 1) Accommodating financier's requirements and risks
- 2) application in countries with weak corporate governance
- 3) apply in countries where senior / influential individuals "do not want better control" for selfish reasons
- 4) complexity of globalisation and virtual work
- 5) making project governance simple and practical to apply, as well as
- 6) overcoming stakeholder resistance to "another" form of statutory requirement.

OK

Question 8 - How should role player liability for eventual project performance be incorporated in a global project governance model?

This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with board of directors in corporate governance), while the other school of thought argues any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.

OK

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The project governance model should be:

- 1) generic, with the possibility of incorporating project specific requirements
- 2) very practical to use
- 3) a framework for decision-making, and
- 4) contain an element that promotes self-governance. Project governance should reduce runaway project spending just as good corporate governance reduces uncontrolled losses.

OK

Additional comments

Important to ensure that the governance model that is established provides flexibility as per the nature and point in life-cycle of the project, i.e. looser control measures initially



*that tighten up as
the project /
organisation
matures. What will
be the
requirements on
project
professionals in this
case?*



Appendix D

Case study protocol

This appendix provides examples of:

- The letter of invitation issued to the case study participants.
- The information sheet forwarded to each participant prior to the NGT meeting.



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Faculty of Engineering,
The Built Environment and
Information Technology
Department of Engineering
and Technology Management

01 March 2007

Project Governance for Large Capital Projects – Case Studies

Dear Rob,

Thank you for your willingness to participate in this research exercise. I realise your time is valuable, as is your experience. The paragraphs below provide a short background of the study I am conducting, the work done so far, and the next steps where I need your, and other colleagues' inputs.

Background

The overall performance of large capital projects (> R500 million) remains a concern worldwide. Various studies on these large projects shows that although we have many project management tools, techniques, training and qualifications, the challenge of completing projects on time, within budget and excellent performance consistently remains a problem. Although I realise there is no 'magic wand' I believe that projects are often 'set-up' for failure, meaning that the end result can often be traced back to poor management of the initial stages of the project.

In setting up a project, I went and had a look at what is done in other areas of industry, especially operating companies. There is a belief, which I support, that a project is a 'temporary company'. To set the rules for establishing and running a company, the formalisation and adherence to corporate governance principles, guidelines, and even laws (Sarbanes Oxley in the USA), are paramount, and unique to each country. Because of the global nature of large capital projects, involving multiple companies from multiple countries, the application of these corporate governance principles becomes troublesome. In recent years the term 'project governance' has surfaced, but from discussions and readings it became clear that there are many views of what this entails, including IT protection, information management, adherence to methodologies, etc. However, during my discussions with project practitioners, I realised that there is still a need to address the upfront phases of a project more formally, setting the scene and framework for the project



manager to function within. In many a discussion, the term 'project governance' was used. This observation called for further investigation.

Work done so far

The topic for the research evolved into "Project Governance for Large Capital Projects". A Delphi study was conducted among more than 30 project practitioners and academics around the globe to define the concept of "project governance", its differentiation from project control, its contents and potential value. The study also confirmed the belief that current project management theory does not address project governance formally.

From this study, a framework for a concept project governance model (CPGM) was derived. The framework was viewed against various law cases concerning large capital projects, to assess whether the contents address the key issues that resulted in a lawsuit.

Next step

To conclude the study, I need to conduct 3 to 4 case studies on large capital projects. The aim of the case studies is to assess the level to which the principles of project governance were applied formally and informally on the projects and what the impact of the principles were on project outcome. I plan to conduct a NGT (Nominal Group Technique) exercise with key project role players, preferably from various stakeholder groups (this might not always be possible, but senior people on the project need to participate). The group participating should have 4 to 8 members and the exercise will take about 3 hours.

I will appreciate it if you could propose a list of participants, their contact numbers and a suitable date for you (potential dates are 19,20, 29, 30 March 2007). I will then arrange a venue, and transport if required.

Looking forward to a most interesting session.

Regards

Giel Bekker
Senior Lecturer & Researcher

Prof M W Pretorius
Head of Department: Engineering and Technology Management



Information Sheet

Nominal Group Exercise (March 2007)

Project Governance for Large Capital Projects

Leading up to the Nominal Group exercise, some research has been done to determine the definition of Project Governance as well as key components of such a typical project governance framework.

The key objective of the Nominal Group exercise is to review the contents of the framework, its validity and applicability and propose improvements.

Respondents' Profile

Participant age bracket	21-30	31-40	41-50	51+
No of participants		1	3	11
Highest Academic Qualification				
	B-degree	M-degree	PhD	
No of participants	8	4	3	
Experience				
Total	372 years			
Average/participant	24.8 years			
Number of international publications	30			
Number of books authored	12			
Capital value of projects managed by respondents	US\$ 43,950,000,000			
Industries				
- Mining	4			
- Petrochem	4			
- Infrastructure & Transport	4			
- Telecommunications	1			
- Academia	2			
Capacity				
Consultant	4			
Client	11			
Country Responses				
	Sent out	Received	% Response	
South Africa	14	9	64%	
United States of America	6	2	33%	
Australia	2	0	0%	
United Kingdom	6	3	50%	
Brazil	1	0	0%	
Sweden	1	0	0%	
Denmark	1	0	0%	
Nigeria	1	1	100%	
Practitioner vs. Academia Responses				
	Sent out	Received	% Response	
Academia	8	2	25%	
Practitioners	24	13	54%	
Total	32	15		



To initiate the study an in-depth literature study, and a dual-round Delphi study, were conducted among leading project management practitioners and academics. The summary profile of the Delphi respondents is given above (Respondents' Profile).

The key questions posted to the participants are given below, with the resulting answer for each question provided. The answers to the questions were used to develop the concept project governance framework to be tested against various case studies.

Question 1- How would you define / describe the concept project governance?

Project governance is a set of management systems, rules, protocols, relationships and structures that provide the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.

Question 2 - Do current project management frameworks and practices fail to address project governance? Please explain.

Overwhelmingly NEGATIVE.
Although some guidelines exist on the governance of project management, concerns were raised regarding (1) the definition and management of risk, (2) non-alignment and lack of integration with business / strategic parameters (3) authority of project leaders, (4) practical application of governance concepts in projects, as well as (5) discipline to refine and apply project governance principles.

Question 3 - What are the similarities between corporate governance and project governance?

General consensus was that for project governance the same principles apply as for corporate governance. However, half the respondents added that project governance should not only be aligned with, but be a subset of corporate governance. Project governance should extend the principles of corporate governance to address the uniqueness of the temporary nature and relationships associated with projects. For example, where corporate governance addresses the composition and functioning of the board, project governance should do the same for the project steering committee.

Question 4 - What are the differences between corporate governance and project governance?

Corporate governance is very clear on the level and detail of financial and legal disclosure, while for project governance the level and type of disclosure is not at all clear. The difference in timeframes requires an alternative approach to the process and speed of decision-making.

Question 5 - What are the differences between project control and project governance?

Project control is a subset of project governance. Project governance should be a proactive measure that sets the scene and framework within which project management, and subsequently project control, should function.

Question 6 - To what extent should a project governance model for large capital projects be project specific, company specific, country specific or generic?

A project governance model should be largely generic, with room to incorporate project specific and unique requirements.

Question 7 - Much effort currently goes into the establishment of global corporate governance principles. What challenges need to be considered and overcome in the development and establishment of a formal global project governance model for large capital projects involving multiple countries and companies?

Challenges include: (1) Accommodating financier's requirements and risks, (2) application in countries with weak corporate governance, (3) apply in countries where senior / influential individuals "do not want better control" for selfish reasons, (4) complexity of globalisation and virtual work, (5) making project governance simple and practical to apply, as well as (6) overcoming stakeholder resistance to "another" form of statutory requirement.

Question 8 - How should role player liability towards eventual project performance be incorporated in a global project governance model?

This question provided for the only real difference in opinion. Approximately half of the respondents believed that stakeholder liabilities should be clearly defined in as much detail as possible (as with board of directors in corporate governance,) while the other school of thought argues any items or actions that could create potential adversarial situations should be avoided and handled outside the project context.

Question 9 - Please provide any other comments that you might have regarding the development and implementation of a project governance model.

The project governance model should be: (1) generic with the possibility of incorporating project specific requirements, (2) very practical to use, (3) a framework for decision-making, and (4) contain an element that promotes self-governance. Project governance should reduce runaway project spending, just as good corporate governance reduces uncontrolled losses.



Given the responses received, and further literature reviews, a concept framework was developed to be used as a measurement and discussion base against selected projects. The purpose of the framework content is to assess:

1. The relevance of each item in the framework to large capital projects.
2. To what extent the various items have been addressed on large capital projects, formally or informally?
3. What the impact was of specific framework items on a studied project?
4. What the impact was of not addressing specific framework items on the project outcome?

The concept framework is tabled below and will be used as a basis for discussing project cases.



Project Governance Framework	
	P. Project Governance
	A. Project Steering Committee
1. Composition	<p>1. Core Competencies</p> <ul style="list-style-type: none"> • <i>Project finance</i> • <i>Project control management (Cost / Time)</i> • <i>Risk assessment and contingency management</i> • <i>Business / project alignment</i> • <i>Upfront management of the project and scope robustness</i> • <i>Crises response (conflict management)</i> • <i>Industry knowledge</i> • <i>International experience</i> • <i>Leadership</i> • <i>Strategic alignment capability</i> • <i>Contract management capabilities</i> • <i>Stakeholder management</i> • <i>Political influence</i> • <i>Country and local knowledge</i> • <i>“Project Champion”</i> • <i>Local legal requirements</i> <p>2. Steering Committee Size <i>Determined by project type, complexity and magnitude</i> <i>Sub-committees - purchasing, finance, audit, social, etc. reporting to steering committee.</i></p> <p>3. Member Mix <i>Comprise members with direct interest, as well indirect stakeholder representatives i.e. socio-economic and environmental (establish appropriate forums to deal with “other” stakeholders).</i></p> <p>4. Chairperson Independent <i>The chairperson should be independent from any project stakeholders (for public projects not private projects).</i></p>
2. Responsibility	<p>1. Committee Accountability <i>Project promotion and stakeholder enablement</i> <i>Obtaining finance</i> <i>Establishing levels of authority</i> <i>Overall accountability</i> <i>Bridging the gap between project and immediate external and statutory environment</i> <i>Team development</i></p> <p>2. Charter <i>Development and adherence to project charter, including project policy, CSR.</i></p>
3. Internal Auditing	<p>1. Project Literacy</p>



	<p><i>The auditors should have extensive project experience on all aspects of large capital projects.</i></p> <p><i>3. Scope of the auditors to be vetted by the steering committee.</i></p>
	<p>B. Cost and Benefit Management (Project Finance and Controls)</p>
1. Charter	<p><i>1. Project Governance Charter</i> <i>Report on adherence to the charter and key performance indicators.</i></p>
2. Cost Reporting Responsibility	<p><i>1. Steering Committee</i> <i>Establish reporting structure, priorities and format.</i> <i>Report against approved budget.</i></p>
3. Finance Reporting	<p><i>1. Project Finance</i> <i>For any financial activities outside the GAAP requirements, full disclosure will be required.</i></p> <p><i>2. Reports</i> <i>Project financial status to be reported on a quarterly basis.</i></p> <p><i>3. Corrections and Adjustments</i> <i>To be reported quarterly.</i></p>
4. Risk Management	<p><i>1. Risk Management Process</i> <i>Formal risk management processes should be in place.</i></p> <p><i>2. Risk Management</i> <i>The steering committee must actively ensure that proper risk identification, quantification and mitigation planning is done on the project, not only on financial and cost matters, but covering all aspects of the project.</i> <i>Impose risk management to be done by all stakeholders.</i></p> <p><i>3. Risk Disclosure</i> <i>Disclosures must be made about all the risks, and prioritised on the project during the total project life-cycle.</i></p> <p><i>4. Risk Certification</i> <i>Requirement for monthly certification by the chairperson of the steering committee of disclosure controls and procedures.</i></p>
	<p>C. Project Reviews and External Audits</p>
1. Independence	<p><i>1. Objectivity</i> <i>Independence and objectivity of the project auditors and reviewers must be ensured.</i></p> <p><i>2. Scope</i> <i>Project reviews and audits should not be confined to adherence to in-house methodologies and practices, but should include items that the review / audit deem necessary to protect stakeholder interests.</i></p>



	<p>3. Rotation <i>Auditors should have no direct or indirect interest in the project or in the contractors / suppliers involved with the project.</i></p>
2. Attestation Report	<p>1. Report <i>External auditor must issue an attestation report on the project's internal control report.</i></p>
3. Disclosure	<p>1. Non-audit services <i>As with corporate governance, it is required that separate disclosures of the amounts paid to the external auditor for non-audit services is made, together with a detailed description of the nature of services.</i></p> <p>2. Fees <i>Requires disclosure of fees paid to a company's principal external auditor since project commencement.</i></p>
D. Ethical, responsible conduct and conflict of interest	
1. Code	<p>1. Standards <i>A Code of Ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none"> • <i>Environment</i> • <i>Social aspects</i> • <i>Socio-economical aspects</i> • <i>Conflict of interest guidelines</i> <p>2. Adherence <i>Adherence to the code of ethics should be disclosed and reported on a monthly basis.</i></p> <p>3. Disclosure <i>Code should be made publicly available and any changes to the code or waivers from the code must be disclosed</i></p>
2. Compensation	<p>1. Performance <i>Performance-related elements of compensation should represent a substantial portion of the total compensation package.</i></p>
3. SHE	<p>1. Adherence <i>SHE requirements must be set and formalised, taking into consideration world best practices and host country conditions and legislation.</i></p>
4. Social	<p>1. Adherence <i>Social and socio-economic considerations must be set and formalised, taking into consideration world best practices and host country conditions and legislation.</i></p>





Appendix E

Secondary case studies: Case studies from general literature (Addressing the second part of the case study research)

Note: The majority of the case studies in this appendix are summarised from available case studies in general literature or sources directly from formal documents. The sources are indicated per case study.

Each case study provides a short summary of the project, the criteria of performance (failure or success) and observations of specific sections of the CPGF that were well adhered to or not.



Case Study B.1: Danish Sports Facility

Source: United Nations (2005)

A local authority in Denmark, of around 20,000 inhabitants implemented a new PPP financing system to increase funding availability for local projects. The financing mechanism consisted of selling public assets, such as school buildings, kindergartens and cleaning services, to private enterprises and then renting them back with a provision that the municipality may buy them back after a number of years. The scheme also included a project for the construction of a sports arena, a soccer stadium as well as a nautical centre under a contract lasting 20 years. The scheme was based on provisions of the Danish tax system, which allowed the leasing company tax advantages that were not available to the municipality. In 2000, a sale and leaseback agreement was signed with a financial institution. The sale and leaseback contract was not formally offered as part of a tender process.

At first sight, the impact of the project was positive. No Danish community had been able, up until that time, to offer such high standards of service through public funds. School children were provided with free personal computers, pensioners were offered free trips and the new sports facilities were of an international standard.

Following a newspaper investigation, however, it was alleged that companies had given money to the soccer club in return for obtaining contracts from the local authority. The mayor was a shareholder of the company and chairman of the soccer club, which was to play in the new soccer stadium.

CPGF performance criteria: Failure

Project Governance adherence

Assessing the Danish Sports Facility case study against the criteria listed in the CPGF, some areas were identified that violated the intent and

prescriptions of the CPGF. The areas listed were aligned with the lessons learned listed in the original case study.

Concept Project Governance Framework	
	P. Project Governance
	A. Project Steering Committee
1. Composition	<p>1. <i>Core Competencies</i></p> <ul style="list-style-type: none"> • <i>Contract management capabilities</i>
Observations	<p>EU's procurement rules for tender and contracting should be followed.</p> <p>A formal tender process should be implemented. In this case it was not, so potential conflicts of interest were not identified.</p>
2. Responsibility	<p>1. <i>Committee Accountability</i></p> <p><i>Overall accountability</i></p> <p><i>Bridging the gap between project and immediate external and statutory environment.</i></p>
Observations	<p>Public accountability is critical for the success of PPPs. The local council was not effective in accounting for payments.</p>
	D. Ethical, responsible conduct and conflict of interest
1. Code	<p>1. <i>Standards</i></p> <p><i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none"> • <i>Environment</i> • <i>Social aspects</i> • <i>Socio-economic aspects</i> • <i>Conflict of interest guidelines</i> <p>2. <i>Adherence</i></p> <p><i>Adherence to the code of ethics should be disclosed and reported on a monthly basis.</i></p> <p>3. <i>Disclosure</i></p> <p><i>Code should be made publicly available and any changes to the code or waivers from the code must be disclosed</i></p>
Observations	<p>All stakeholders in the PPP arrangement must be transparent in their dealings with any aspect related to the project.</p>



Case Study B.2: British Embassy in Berlin

Source: United Nations (2005)

Subsequent to the reunification of Germany, the German Government moved from Bonn to Berlin and was later followed by the major embassies. The British Government decided to return its embassy and chose its pre-war site close to the Brandenburg Gate. The old building had been demolished in 1945 but the British Government retained ownership of the site.

The project was procured through the Private Finance Initiative (a PPP approach that originated in the UK) and, after an EU tender bid, the Foreign and Commonwealth Office (FCO) signed a contract with a German consortium, which financed, constructed and would manage the building for 30 years. The six-storey building provides 9,000m² in total and houses around 125 UK-based and locally engaged staff. Final adherence to the design was not a requirement of the procurement process, but the rights were assigned and decided in favour of the preferred bidder.

The FCO faced difficulties because they had to undertake a novel form of procurement abroad. The noticeable feature of the project documentation is that it was for the development of a facility outside the UK and consequently issues regarding governing law and conflict in laws arise. It was decided at an early stage that the project agreement would be an English law contract.

In parallel with this, the underlying property interest was the grant by the FCO of a German law-building lease. While the jurisdiction of the German Courts in relation to the building lease could not be entirely excluded, both the project agreement and building lease had been so structured as to place virtually exclusive reliance on dispute resolution procedures, should problems arise in the future.

The project was successfully completed and this shows that despite the



potential complexities, an effective structure was found by implementing common law structures of designing, building, financing and operating of the facility overseas.

CPGF performance criteria: Successful

Project Governance Adherence

Concept Project Governance Framework	
	P. Project Governance
	A. Project Steering Committee
1. Composition	1. <i>Core Competencies</i> <ul style="list-style-type: none"> <i>Contract management capabilities</i>
Observations	<p>Project agreements can cross borders. This one was governed by English law but adapted to major German law-related financial and tax issues.</p> <p>Introduction of dispute resolution clause mechanisms early in the project managed to reduce the legal complexity of the project.</p>



Case Study B.3: The Mapeley PFI project: sale of land and building by the Inland Revenue

Source: United Nations (2005)

“In March, 2001 the UK government’s tax authority (the Inland Revenue and Custom Excise), in order to raise capital for the Exchequer, proposed a PFI through transference of the ownership and management of buildings belonging to the IRCE in a lease back for 20 years. For £220m, 600 buildings went to a consortium (Mapeley), which was chosen as the preferred bidder. The Inland Revenue said at the time of the operation that it was dealing with a UK registered company. However, 18 months later, a review by the auditor’s office identified that the company was based offshore in Bermuda. This therefore raised the possibility that ownership of valuable assets was to be shifted beyond the reach of the UK tax authorities to a company registered in a tax haven.

Some experts believe the sale will theoretically eventually cost the government millions of pounds in lost revenues from capital gains tax, although this is not easy to quantify because UK-based companies may make arrangements that entitle them to tax relief. Information disclosed to the UK Parliament and to the public by the government was not accurate or was incomplete. The exact contract structure was revealed fairly late in the procurement process and the press release incorrectly stated that the contract was signed with a UK-based company. A financial crisis affected Mapeley UK, which then sought contract price increases soon after the signing of the contract, demonstrating a poor due diligence and accountability process during tender evaluation that should be improved.”

CPGF performance criteria: Failure

Project Governance Adherence



Concept Project Governance Framework	
	P. Project Governance
	A. Project Steering Committee
1. Composition	<p>1. <i>Core Competencies</i></p> <ul style="list-style-type: none"> • <i>Project finance and cost management</i> • <i>Contract management capabilities</i>
Observation	Government officials should be fully informed about key circumstances relating to PPP contracts.
	B. Cost and Benefit Management
2. Financial Disclosures	<p>1. <i>Project Finance</i> <i>For any financial activities outside the GAAP requirements, full disclosure will be required.</i></p> <p>2. <i>Reports</i> <i>Project's financial status to be reported on a quarterly basis.</i></p> <p>3. <i>Corrections and Adjustments</i> <i>To be reported quarterly.</i></p>
3. Internal Controls	<p>1. <i>Risk Management Process</i> <i>Formal risk management processes should be in place.</i></p> <p>2. <i>Risk Management</i> <i>The steering committee must actively ensure that proper risk identification, quantification and mitigation planning is done on the project, not only on financial matters, but covering all aspects of the project.</i></p> <p>3. <i>Risk Disclosure</i> <i>Disclosures must be made about all the risks on the project during the total project life-cycle.</i></p> <p>4. <i>Risk Certification</i> <i>Requirement for monthly certification by the chairperson of the steering committee of disclosure controls and procedures.</i></p>
Observations	<p>Governments should take into account the reduced tax income from companies registered in tax havens when designing PPP contracts and procurement processes. While the audit process worked as intended, and identified this issue, it should have been identified earlier, during tender evaluation.</p> <p>Accurate evaluation of the financial capacity and soundness of the bidder is a key aspect of tender evaluation.</p>



Case Study B.4: The Chesapeake Forest

Source: United Nations (2005), Smith, A.L. (2006)

Chesapeake Bay is the largest estuary in the United States. The surface area of the Bay and its tidal tributaries is approximately 7,000 square miles, and its watershed comprises 64,000 square miles in six states and the District of Columbia. Historically, the Bay was one of the richest bio habitats in North America; today, it still supports over 3,600 species of plants and animals, and provides fishing, recreation, tourism and other employment opportunities for the region.

Growing population pressure and loss of undeveloped land have reduced the environmental quality of the Bay. Faced with declining water quality and severe reductions of fish and shellfish populations, governments in the area made restoration of the Chesapeake Bay an environmental priority.

Much of this land bordered on existing state-owned parkland and forest, creating a unique opportunity to buffer a large area from deforestation and development. However, the state faced several obstacles to this environmentally desirable goal:

- The state lacked funding to acquire the land,
- The state lacked resources to manage the land after purchase (the state estimated that four full-time foresters and associated support services would be required)
- Cessation of timber harvesting would cause unacceptable disruption of the local economy in this largely rural part of the state

In 1999, a lumber company offered for sale a tract of 58,172 acres in the Chesapeake Bay watershed, including shoreline property. The acquisition of the land was achieved through fairly traditional means. The state purchased one-half of the acreage using state funds, while the remaining 29,000 acres were purchased by an environmental non-profit organisation, which transferred ownership to the state. By December 2000, the state owned all of



the Chesapeake Forest lands.

The state, working with the non-profit environmental group, then sought to craft a PPP, with the following explicit objectives:

- Providing a steady flow of economic activity and employment to support local businesses and communities;
- Preventing the conversion of forested lands to non-forest uses;
- Contributing to improvements in water quality, as part of the larger Chesapeake Bay restoration effort;
- Protecting and enhancing habitat for threatened and endangered species;
- Maintaining soil and forest productivity and health; and
- Protecting visual quality and sites of special ecological, cultural or historical interest.

To achieve these objectives, the state advertised, negotiated and awarded a multiyear contract to a lumber company. This innovative agreement allows the company to harvest up to 1,000 acres of timber annually: an environmentally sustainable level. In return, the lumber firm is required to manage the Chesapeake Forest to the state's social and environmental standards. Harvesting of timber is allowed only where it is consonant with the environmental objectives of water quality and wildlife habitat.

The partners, state and timber company, share the profits generated from the sale of timber, with a 15 percent share of sales revenues being directed to the local county governments. To minimize risk to its private partner, the state agreed to compensate the lumber company for any losses in the first two years. However, this guarantee was never triggered, since the partnership has generated a profit every year since its inception. The lumber company is required to keep a fully accessible and transparent accounting system, open to the state's review, and audited by an independent accounting firm.

CPGF performance criteria: Successful

Project Governance adherence



Concept Project Governance Framework	
	P. Project Governance
	A. Project Steering Committee
1. Composition	<p>1. <i>Core Competencies</i></p> <ul style="list-style-type: none"> • <i>Leadership</i> • <i>Strategic alignment capability</i> • <i>Contract management capabilities</i>
Observations	Win-win contractual agreements can be developed and implemented between public and private enterprises.
	B. Cost and Benefit Management
2. Financial Disclosures	<p>1. <i>Project Finance</i> <i>For any financial activities outside the GAAP requirements, full disclosure will be required.</i></p> <p>2. <i>Reports</i> <i>Project financial status to be reported on a quarterly basis.</i></p> <p>3. <i>Corrections and Adjustments</i> <i>To be reported quarterly.</i></p>
Observations	Innovative financing and transparent disclosure could provide much needed capital for PPPs.
	D. Ethical, responsible conduct and conflict of interest
1. Code	<p>1. <i>Standards</i> <i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none"> • <i>Environment</i> • <i>Social aspects</i> • <i>Socio-economic aspects</i> • <i>Conflict of interest guidelines</i>
Observations	Protecting the environment through an inclusive, transparent and commercial basis provides a platform for sustainability.

Case Study B.5: The Zurich Soccer Stadium project

Source: United Nations (2005)

A project to build a new football stadium in Zurich was proposed, which included a shopping centre alongside the stadium. The Green Party was, however, opposed to the construction of the stadium on environmental grounds. Local residents reacted against the project as well, because of concerns over increased traffic congestion that would result from the project. To solve the dispute, a referendum was called to approve both the planning permission and the city decision to provide land and funding worth a total of CHF 37.5m, which was 10% of the total project cost. In September of the year 2003, the referendum results showed: 63,26% of the inhabitants agreed to the private plan and 59,19% agreed with the financial participation. Credit Suisse will finance the project with a loan of CHF 370m among a consortium of other private investors. The project involves improvements in the public transportation network with a new tram and bus line to deal with the increase in traffic.

CPGF performance criteria: Successful

Project Governance Adherence

Table 5.3: Concept Project Governance Framework (CPGF)

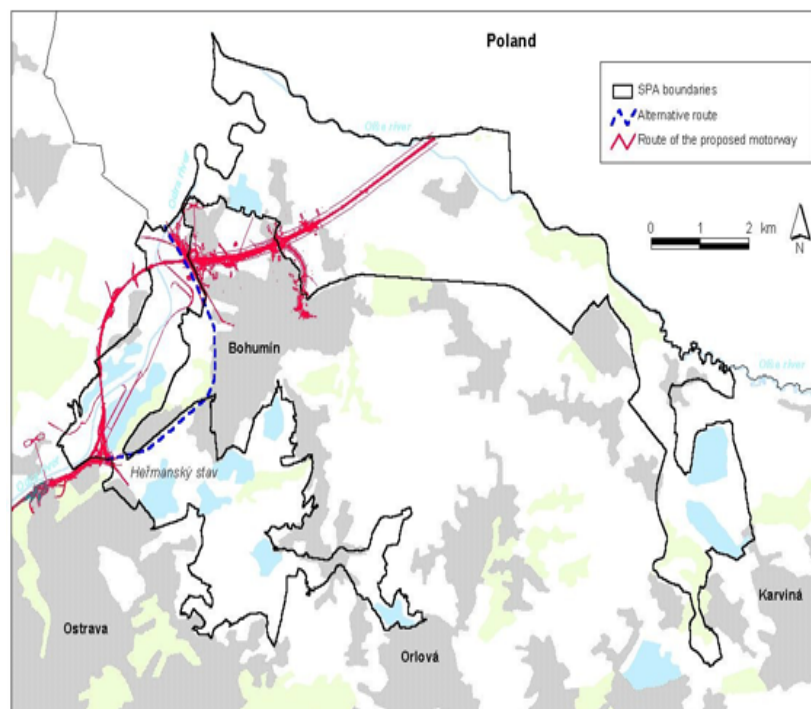
D. Ethical, responsible conduct and conflict of interest	
3. Integrated sustainability	<i>1. Adherence</i> <i>SHE requirements should be to international standards, as a minimum, supplemented by host country requirements.</i>
4. Social	<i>1. Adherence</i> <i>Social and socio-economic considerations should be to international standards, as a minimum, supplemented by host country requirements.</i>
Observations	<ul style="list-style-type: none">• Public scrutiny by a referendum before the final approval of a project provides benefits. Participation is positive as it generates better understanding by the community through open debate.• Full consideration should be given to project-related impacts, such as traffic congestion, noise pollution, etc., prior to project approval.

Case Study B.6: D47 Motorway Project (Czech Republic)

Source: United Nations (2005), Bird Life International (2003), Halliburton (2002)

In 2001, a PPP project to improve the D47 motorway was initiated and launched in the Czech Republic. The project was aimed at improving the infrastructure requirements to meet EU standards and the expected greater use of motorways. Estimated at US\$ 1.5 billion, the 80km motorway would form part of the Trans-European Network of motorways linking the Baltic with the Balkans and would connect Ostrava on the Polish border with the existing motorway network at Lipnik Nad Becnou. Financial close for the project was scheduled for autumn 2002. It was intended to be the first motorway project in the Czech Republic to be built using a payment structure based on shadow tolls. In March 2001 Kellogg Brown & Root (KBR), in consortium with others, signed a contract with the Czech Government for a 30-year concession to design, build, finance and operate the D47 motorway in the Czech Republic (Halliburton, 2002). The contract stipulated several conditions regarding the final price, including risks involved in the buy-out of property and receipt of land-use permits, which would all be covered by the Czech government.

In April 2003, the Czech government decided to cancel the contract due to strong criticism of the price, apparent contract omissions and the fact that a significant amount of money could be saved even though a possible penalty for early termination





might have to be forfeited. In addition, environmental groups, led by Bird Life International (BLI) (2003), claimed that the construction would severely damage the environment and urged that an alternative route be considered. In short, BLI claimed that the site was an Important Bird Area (IBA) and formed part of the proposed Special Protection Areas Hermansky stav-Struzka. Within the site, the construction would affect important breeding sites of the Corncrake, Spotted Crake, Marsh Harrier, Honey Buzzard, Kingfisher, as well as wintering grounds of the Common Merganser (it is also the only regular breeding site of this species in the Czech Republic), White-tailed Sea Eagle, and many other species listed in Annex I of the Birds Directive. The planned route also leads through important breeding grounds for the European Fire-bellied and Yellow-bellied Toads and an area important for the Hermit Beetle and for the European Beaver (priority species of Annex II and Annex IV of the Habitats Directive). In conclusion, the BLI proposed an alternative route that seemed cheaper and more environmentally friendly.

A parliamentary commission was appointed to investigate the circumstances of the award and subsequent termination of the contract. Compensation for the constructing consortium was agreed in July 2003.

The project was restructured using traditional methods through open tender processes for construction. Financing was provided via the State Transport Infrastructure Fund as well as through bonds and loans.

CPGF performance criteria: Fail

Project Governance adherence



Concept Project Governance Framework (CPGF)	
	P. Project Governance
	A. Project Steering Committee
1. Composition	<p>1. <i>Core Competencies</i></p> <ul style="list-style-type: none"> • <i>Project finance and cost management</i> • <i>Contract management capabilities</i>
Observations	<ul style="list-style-type: none"> • The contracting strategy should be carefully selected upfront with a competitive tender process as pre-requisite for any infrastructure related project. • An efficient and impartial dispute resolution system should be considered in advance.
	D. Ethical, responsible conduct and conflict of interest
1. Code	<p>1. <i>Standards</i></p> <p><i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none"> • <i>Environment</i>
Observations	Respected and reputable environmental groups should be consulted.

Case Study B.7: Tajikistan Pamir Private Power Project

Source: United Nations (2005), The World Bank Group (2007), Markandya, A. & Sharma, R.Y. (2004)

In Tajikistan, one of the poorest countries in the former USSR region, the IFC and the Aga Khan Fund for Economic Development (AKFED), together with the Tajikistan government, are working on the development of a new electricity generation and distribution project in Gorno-Badakhshan region for 250,000 residents. A new company was established, 70% owned by AKFED (a group of private, non-denominational development agencies) and 30% by IFC. The project will cost US\$ 26 million. In addition, the Swiss government provided US\$ 5 million to maintain the tariff increase required in the early years in line with the national tariff and to support a minimum consumption amount. The company will control and operate all existing electricity generation, transmission and distribution facilities in Gorno-Badakhshan under a 25-year concession, complete with a partly constructed hydroelectric plant but increasing its capacity from 14 MW to 28 MW. It will also operate another 8 KW plant in the city of Khorog and construct a river regulating structure at the upstream Yashikul Lake to ensure adequate flow in winter, and rehabilitate other assets, including substation, transmission and distribution lines.



Khorog, Capital of Gorno Badakhshan Oblast



CPGF performance criteria: Successful

Project Governance Adherence

Concept Project Governance Framework (CPGF)	
	P. Project Governance
	A. Project Steering Committee
1. Composition	1. Core Competencies <ul style="list-style-type: none"> • Project finance and cost management
Observations	<ul style="list-style-type: none"> • Innovation funding mechanisms can stimulate development in poorer countries and provide a basis for sustainable development.
	D. Ethical, responsible conduct and conflict of interest
1. Code	1. Standards <i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as minimum):</i> <ul style="list-style-type: none"> • Socio-economic aspect
3. Integrated sustainability	1. Adherence <i>SHE requirements should be to international standard, as a minimum, supplemented by host country requirements.</i>
Observations	<ul style="list-style-type: none"> • A concession can successfully grant a legal, regulatory, environmental (including deforestation and pollution), financial and technical framework with parliamentary approval that reduces political risk of future changes. • Political and social risk can be mitigated by a social protection scheme tariff.



Case Study B.8: Scottish Schools

Source: United Nations (2005), Caithness Community Website (2005), e-architect (2004)

In Scotland, a large portion of PPP funding (nearly 50%) has been directed towards schools. In 2001, school PPPs accounted for 10% of all capital expenditure committed by the Scottish Executive. In March 2003 it was announced that an additional £750m, over and above the already committed £1.2bn, would be invested in the further rebuilding or refurbishing of school buildings. The project intended to provide quality working environments and access to world class information technology, enabling pupils, each with their own e-mail address, and teachers to work together, productively and efficiently, to raise standards and maximise the individual potential of every participant.

However, in 2003, the strong incentives provided to private stakeholders were questioned by the Caithness Community when complaints arose due to the invasion of green spaces (parks and recreation areas) adjacent to schools. In terms of the PPP agreements, the private stakeholders were given access to some of these lands for private developments without proper consultation with communities. Adding to this, many teachers started raising concerns in 2004 regarding the quality of the newly built and refurbished classrooms and the seemingly less educational friendliness of the new facilities. A survey was launched among Scottish teachers that indicated, amongst other issues, that:

- Only 27% of teaching staff felt their comments had an impact on the plans for the school
- Only 30% of teaching staff believed that their new school represented good value for money
- Only 20% of teaching staff felt they had been properly consulted regarding recreational facilities for pupils
- Only 30% of teaching staff felt they had been given proper input on resource areas such as libraries
- Only 25% of teaching staff felt they had been properly consulted on health and safety issues



CPGF performance criteria: Questionable

Project Governance Adherence

Concept Project Governance Framework (CPGF)	
	P. Project Governance
	A. Project Steering Committee
1. Composition	<p>1. <i>Core Competencies</i></p> <ul style="list-style-type: none"> • <i>Project finance and cost management</i> • <i>Contract management capabilities</i>
Observations	PPPs within the school sector can improve educational standards and give more value for money.
	D. Ethical, responsible conduct and conflict of interest
1. Code	<p>1. <i>Standards</i></p> <p><i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none"> • <i>Environment</i> • <i>Social aspects</i> • <i>Socio-economical aspects</i> • <i>Conflict of interest guidelines</i>
Observations	The impact on the immediate communities and input from direct stakeholders should be formalised before major capital expenditure. The interest of the private and public stakeholders should be carefully balanced.
3. Integrated sustainability	<p>1. <i>Adherence</i></p> <p><i>SHE requirements should be to international standard, as a minimum, supplemented by host country requirements.</i></p>
Observations	PPPs can have a substantial social impact. Schools are set up in many of Glasgow's so-called 'deprived' areas.



Case Study B.9: Bulgaria, Sofyiska Voda – Water Supply Programme

Sources: United Nations (2005), European Bank for Reconstruction and Development (EBRD) (2000)

Although Bulgaria has a well-developed water supply system servicing 99% of the population, the system itself has been badly maintained. It was estimated that around 3% of the population connected to drinking water supply systems uses water with dangerously high levels of nitrates, oil and serious microbiological contamination. Due to this dilemma infrastructure systems for water supply and wastewater treatment and disposal are in the process of radical change in Bulgaria. The country's water strategy is focused on improving the quality and complying with EU environmental standards.

A utilities company, Sofijska Voda, was formed, which is majority owned by International Water UU (Sofia), and parent companies that include Bechtel Enterprises Holdings Inc., Edison SpA and United Utilities plc. The company has taken over operating responsibility for the water and wastewater system for Sofia under a 25-year concession agreement. The municipality of Sofia holds 25% of the shares. The EBRD's finance of EUR31 million will support Sofijska Voda's capital expenditure programme for the first five years of the concession, including start-up costs. The sponsor group will provide combined subordinated debt and equity, which, together with funds generated internally by the company, bring the total amount of the five-year project to EUR94 million. The intention was that the initial investment would concentrate on rehabilitation of the water and sewerage networks to reduce leakage and infiltration. By 2002, the company had completed 71 rehabilitation projects on the water supply network and 15 projects on the sewerage networks in the city, resulting in improved quality of service for about 25,000 inhabitants.

Eventually, the residents of Sofia will benefit from the country's first privately managed water and wastewater company, servicing 1.3 million people. This initiative had a strong socio-economical and

environmental impact on the city, while the funds help the company improve maintenance of the city's water supply network (running to an overall length of 3 500 km) as well as 1 700km of sewage network. Two water treatment plants were also included in the company's operations, namely Bistritsa and Pancharevo.

CPGF performance criteria: Successful

Project Governance Adherence

Concept Project Governance Framework (CPGF)	
	P. Project Governance
	A. Project Steering Committee
1. Composition	<i>1. Core Competencies</i> <ul style="list-style-type: none">• <i>Project finance and cost management</i>• <i>Contract management capabilities</i>
Observations	Through a comprehensive PPP structure, which is lenient towards private enterprise, successful and sustainable entities can be established in the basic utility supply industry.
2. Responsibility	<i>1. Committee Accountability</i> <i>Overall accountability</i> <i>Bridging the gap between project and immediate external and statutory environment.</i>
Observation	Proper handover and acceptance of accountability can establish successful PPP agreements.
	D. Ethical, responsible conduct and conflict of interest
1. Code	<i>1. Standards</i> <i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i> <ul style="list-style-type: none">• <i>Environment</i>• <i>Social aspects</i>• <i>Socio-economical aspects</i>• <i>Conflict of interest guidelines</i>
Observations	The project addressed all items in a sustainable fashion.

Case Study B.10: Vancouver Landfill Cogeneration Plant

Source: United Nations (2005), Environment Canada (2007)

The City of Vancouver, British Columbia, owns and operates one of the largest landfill sites in Canada. The site serves approximately 900,000 residents and receives approximately 400,000 tonnes of solid waste annually. The site produces landfill gases as a by-product of waste decomposition, including methane - a greenhouse gas that contributes to global climate change.

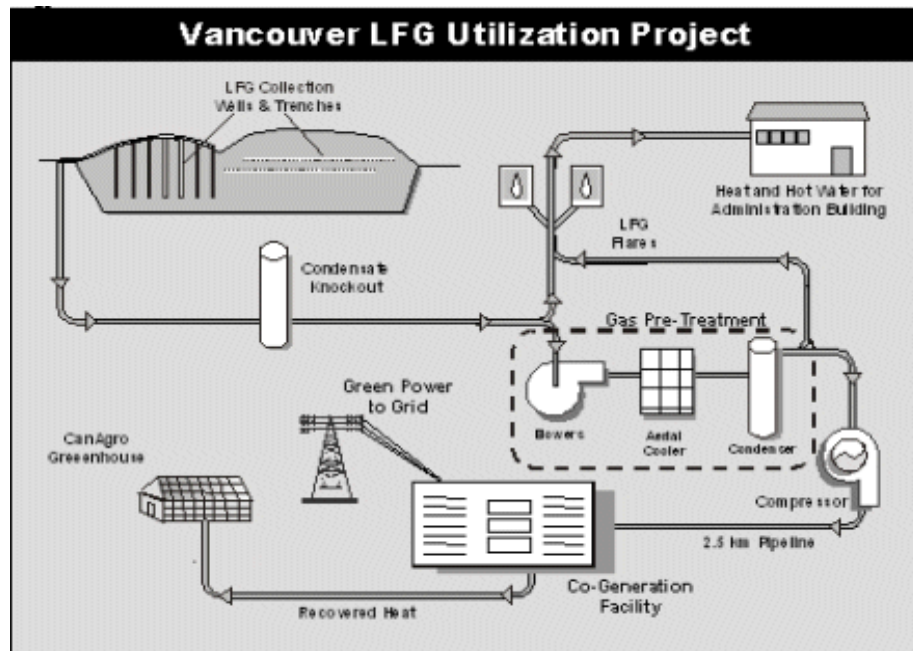
Due to the increase in landfill congestion, spreading of odours and increased environmental impact, the city began collecting and burning (flaring) the gases in 1991. This burning created significant heat energy and started threatening compliance with the Kyoto Protocol.

Needing to address the potential increase in negative environmental impact, the city decided to investigate the potential use of the landfill gas (LFG) for cogeneration. Through a competitive bidding process, Maxim Power was selected to finance, design, build, own and operate an LFG beneficial use facility. Following a detailed and structured proposal evaluation and negotiation process, a 20-year PPP contract was approved by the city council in February 2002. A formal PPP structure was developed, under which the LFG would be used to provide electricity to between 4 000 and 5 000 homes. Waste heat from the power generation process is recovered as hot water and sold to a nearby greenhouse complex for heating purposes. Using, rather than burning the LFG resulted in a net effect of 6 000 less vehicle emissions in Canada.

The City of Vancouver only guarantees the provision of LFG and makes no further payments to Maxim Power. In addition, the city receives ten percent of gross revenues from the sale of both the electricity and thermal energy generated by the cogeneration plant, amounting to approximately US\$ 400 000 annually. The cost to the city for collecting the LFG amounts to

approximately US\$ 250 000 per year.

The total capital cost of the project, including the advanced control system upgrade, amounted to US\$ 10 million.



CPGF performance criteria: Successful

Project Governance Adherence

Concept Project Governance Framework (CPGF)	
P. Project Governance	
A. Project Steering Committee	
1. Composition	<p>1. Core Competencies</p> <ul style="list-style-type: none"> • Project finance and cost management • Business / project alignment • Leadership • Strategic alignment capability • Contract management capabilities
Observations	<p>The example of the Vancouver Landfill site (although not large in capital value) is a good indication of the successes that can be achieved with good strategic alignment, focusing on core competencies and well negotiated contracts and the benefits of working towards a win-win situation in PPPs.</p>
B. Cost and Benefit Management	
2. Financial Disclosures	<p>1. Project Finance</p> <p>For any financial activities outside the GAAP requirements, full disclosure will be required.</p>



	<p><i>2. Reports</i> <i>Project financial status to be reported on a quarterly basis.</i></p>
Observations	The cost and economic situation of the LFG operation is well documented and reported on.
	D. Ethical, responsible conduct and conflict of interest
1. Code	<p><i>1. Standards</i> <i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none"> • <i>Environment</i> <p><i>2. Adherence</i> <i>Adherence to the code of ethics should be disclosed and reported on a monthly basis.</i></p>
Observations	The primary drive for this project was environmental considerations and adherence to the Kyoto Protocol. The eventual environmental effect is well documented and published.



Case Study B.11: Channel Energy Poti Port Project, Georgia

Source: United Nations (2003), European Bank for Reconstruction and Development (2002)

Since the mid 1990s, cargo traffic flow has increased dramatically from Europe through the historic Black Sea ports of Odessa, Varna and Constantza. Especially the facilities at Port of Poti started experiencing major overload. The Port of Poti was established in 1858 and is strategically located as a gate to the Caucasus and Central Asian economies. It is the shortest route connecting Europe with Central Asia and further expansion of the Euro-Asian Transport Corridor known as TRACECA (the new 'Silk Road'), were bound to further increase cargo transportation by sea via the Port of Poti.

To address this need for expansion, a company (Channel Energy (Poti) Ltd.) was set up as a joint venture between an energy firm and Poti Sea Port (Georgia) under the sponsorship of a holding group. The -project was funded through EBRD as well as Black Sea Trade and Development Bank (BSTDB) to cover the initial capital layout of US\$ 30 million.

Apart from alleviating the immediate cargo congestion at the port, the project also formed part of the longer term capital programme for the development of large-scale refinery projects in the Caspian region, as well as ferry landing facilities and an oil seed plant. The overall project objectives included:

- enhancing the service standards in the region through privatisation,
- promoting greater competition in the private sector; and
- developing an environmental safety strategy.

Environmental compliance proved to be a major challenge, especially regarding potential oil spillages outside the port and the future of the Kolkheti nature reserve. An Environmental Impact Assessment (EIA) was conducted, resulting in the following proactive and immediate actions:

- Additional technical parameters on the effluent treatment plant had to

be presented for approval.

- A detailed oil spills response plan had to be developed and coordinated prior to commissioning of the terminal.
- A self-monitoring programme had to be developed and agreed, and
- The neighbouring countries had to be informed about the project and its potentially adverse trans-boundary impacts under adverse scenarios.

Over and above the above actions, Georgia also developed its National Oil Spill Contingency plan that was aimed at achieving safe and environmentally responsible passage through the Strait.

CPGF performance criteria: Successful

Project Governance Adherence

Concept Project Governance Framework (CPGF)	
	P. Project Governance
	A. Project Steering Committee
1. Composition	<i>1. Core Competencies</i> <ul style="list-style-type: none">• <i>Strategic alignment capability</i>• <i>Contract management capabilities</i>
Observations	Although not much information is available regarding the detail contractual arrangements or financial sustainability of the project, the involvement of EBRD provides a clear indication of the strategic forward thinking of the leaders in the region. The upgrading of the port should not be viewed in isolation, but should be seen as part of the total investment for the economic revitalisation of the area.
	D. Ethical, responsible conduct and conflict of interest
1. Code	<i>1. Standards</i> <p><i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none">• <i>Environment</i>
Observations	Much effort went into establishing a well recognised environmental protection plan.

Case Study B.12: New Multi-purpose Terminal in the Baltic Sea Port of Ventspils, Latvia

Source: United Nations (2005), European Bank for Reconstruction and Development (1999), Noord Natie Ventspils Terminals website (2007)

Noord Natie Ventspils Terminals LLC (NNVT) is a joint venture that was established between Noord Natie nv and Ventplac LLC to address the demand for general cargo traffic in the Baltic Sea and to promote the Port of Ventspils (the fifteenth largest port in Europe) as a gateway to Russia. Noord Natie nv (a Belgium-based company established in 1882) is a respected ports operating company and brought its substantial international experience in port operations, particularly in the management of high-quality container terminals, to the development of the multi-purpose terminal.

With the aim of stimulating private enterprise in Latvia, a PPP arrangement was formalised with loans secured from European Investment Bank (EIB) and the EBRD. The initial funding was sourced to bring the country's railway infrastructure into line with the needs of a modern high-volume transit route and to upgrade the rail network at Latvia's main port. The upgrade was also aimed at rerouting the transport of hazardous chemicals, in line with European environmental standards.



The total cost of the investment is about EUR 69.0 million with public financing exceeding EUR 29.5 million. NNVT received a EUR 19.5 million loan from the EBRD, to be used as a private contribution to the PPP, and in particular to finance the purchase and installation of cargo handling equipment and other superstructure for the multi-purpose inter-modal terminal.

A comprehensive EAP was developed, in line with national and EU / World Bank environmental and health and safety standards.

CPGF performance criteria: Successful

Project Governance Adherence

Concept Project Governance Framework (CPGF)	
P. Project Governance	
A. Project Steering Committee	
1. Composition	<i>1. Core Competencies</i> <ul style="list-style-type: none">• <i>Project finance and cost management</i>• <i>Business / project alignment</i>• <i>Leadership</i>• <i>Strategic alignment capability</i>• <i>Contract management capabilities</i>
Observations	Realising the strategic positioning and geographical location of the port, pro-active leadership and innovative financing secured a successful project. The role of strong leadership from all participating stakeholders should be mentioned, with NNVT a strength in the European ports industry today.
D. Ethical, responsible conduct and conflict of interest	
1. Code	<i>1. Standards</i> <p><i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none">• <i>Environment</i>• <i>Social aspects</i>• <i>Socio-economical aspects</i>• <i>Conflict of interest guidelines</i>
Observations	Uncompromising environmental impact assessments were conducted to ensure a safe and healthy working environment.



Case Study B.13: Three Gorges Dam

Source: Wikipedia (2007), Ryder, (2007)

The largest dam on earth, The Three Gorges Dam in the Yangste River, is nearing completion, with the final handover date being 2009. As of 2007, it is the largest hydroelectric river dam in the world - more than five times the size of the Hoover Dam.

Initiated in 1919 by Sun Yat-sen in his address, 'The International Development of China', several Chinese leaders were tempted to start constructing the dam, but, with limited ability, they started the Gezhouba Dam first. In April 1992 the final approval was obtained from the National People's Congress and construction began in 1994. Structural work was finished on 20 May 2006, nine months ahead of schedule.

The reservoir began filling on 1 June 2003 and will occupy part of the scenic Three Gorges area between the cities of Yichang, Hubei, and Fuling, Chongqing. The dam will be fully operational in 2009 when the final set of hydroelectric generators has been commissioned.

Since its initiation, the project has been plagued with controversy. As with many LCPs, there is a continuous debate over the costs and benefits of the Three Gorges Dam. Although there are economic benefits from flood control and hydroelectric power, there are also concerns about the future of 1.13 million people who will be displaced by the rising waters, the loss of many valuable archaeological and cultural sites, as well as the potential devastating effects on the environment. During mid-2007, the Chinese national auditor also reported the following items (Ryder, 2007):

- “Almost half the project’s 1448 construction supervisors were either unlicensed or unqualified for the job,
- Several engineering companies subcontracted projects worth US\$ 108 million to other construction units and charged management fees of US\$ 7 million, in violation of project regulations. The auditors cite one example: for constructing the shiplock, the Three Gorges Corporation,

- signed a US\$ 85 million contract with the Yichang Anlian Hydropower Company, which then subcontracted another 18 companies to do the job and charged a management fee of US\$ 5 million,
- All but one of 347 supervision contracts checked was awarded to the Three Gorges Corporation's subsidiary, Three Gorges Development Company, without public bidding. About half were carried out without a signed contract.
 - The auditors could find no written records for 22 of the 37 construction 'flaws and incidents' reported by the State Council's quality inspection group, which include cracks in the dam structure and problems with the turbines."

Other problems discovered by the auditors include:

- "Improper contract management that increased project costs by US\$ 61 million.
- About US\$ 5 million was spent on equipment and materials that has never been used.
- The Three Gorges Corporation illegally acquired about 20 hectares of land at the dam site and then built a four star hotel and a theme park (that charges admission)."

CPGF performance criteria: Questionable

Project Governance Adherence

Concept Project Governance Framework (CPGF)	
P. Project Governance	
A. Project Steering Committee	
1. Composition	<i>1. Core Competencies</i> <ul style="list-style-type: none">• <i>Project finance and cost management</i>• <i>Business / project alignment</i>• <i>Front-end-Loading management</i>• <i>Crises response</i>• <i>Industry knowledge</i>• <i>International experience</i>• <i>Leadership</i>• <i>Strategic alignment capability</i>• <i>Contract management capabilities</i>
Observations	To provide an independent view on the status of the competencies of the key steering committee members

	would not be possible at this stage. Although the overall financial management seems to be under control, the allocations and administration of contracts seems questionable from the audit reports.
	B. Cost and Benefit Management
1. Financial Reporting Responsibility	1. <i>Steering Committee</i> <i>Report against approved budget.</i>
Observations	From general information available, it seems as if financial reports are submitted regularly on the project.
2. Financial Disclosures	2. <i>Reports</i> <i>Project financial status to be reported on a quarterly basis.</i> 3. <i>Corrections and Adjustments</i> <i>To be reported quarterly.</i>
Observations	Financial reporting done well.
	C. Project Reviews and Audits
1. Independence	1. <i>Objectivity</i> <i>Independence and objectivity of the project auditors and reviewers must be ensured.</i> 2. <i>Scope</i> <i>Project reviews and audits should not be confined to adherence to in-house methodologies and practices, but should include items that the review / audit deem necessary to protect stakeholder interests.</i>
Observations	Regular project audits being done and published.
	D. Ethical, responsible conduct and conflict of interest
1. Code	1. <i>Standards</i> <i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i> <ul style="list-style-type: none"> • <i>Environment</i> • <i>Social aspects</i> • <i>Socio-economical aspects</i> • <i>Conflict of interest guidelines</i> 2. <i>Adherence</i> <i>Adherence to the code of ethics should be disclosed and reported on a monthly basis.</i> 3. <i>Disclosure</i> <i>Code should be made publicly available and any changes to the code or waivers from the code must be disclosed.</i>
3. Integrated sustainability	1. <i>Adherence</i> <i>SHE requirements should be to international standards, as a minimum, supplemented by host country requirements.</i>
4. Social	1. <i>Adherence</i> <i>Social and socio-economic considerations should be to</i>



	<i>international standards as a minimum, supplemented by host country requirements.</i>
Observations	Section D of the CPGF remains contentious for this project. In general, dissatisfaction remains with the way that public participation was handled during the assessment studies on the socio-economic and environmental impacts.



Case Study B.14: Ecuador Oil Production

Source: Boyle & Anderson (1996)

The economic development of Ecuador is largely dependant on the exploration of its natural resources. Such a resource is the rich oil fields in the rain forests of the Amazon. Since its election in 1992, the conservative government has intensified oil production and by 1996 had secured loans of more than USD\$ 400 million from the World Bank on condition that the government complies with their environmental standards. However, the development of the oil resources had a major impact on the indigenous tribes and people living in the Amazon forests, especially the Huaorani, who are most vulnerable to development, mainly due to their dispersed population (approximately 1200 people living in 17 different communities). In 1990 the Huaorani tribe established their own organisation, called ONHAE, to defend their interests. In 1993 ONHAE accepted offers from Maxus Energy Corporation to exploit the Huaorani territory for oil. However, it is believed that the agreements did not carry the general consent of the Huaorani people, since studies have shown from previous projects that the development had a devastating impact on the communities, ranging from increase in alcohol abuse to prostitution, illness, natural resource pollution, etc. It also surfaced that the Tagaeri, a grouping within the Huaorani, who had most objected to the oil developments, was actively pursued and killed to eliminate their opposition to the oil projects.

CPGF performance criteria: Questionable

Project Governance Adherence

Concept Project Governance Framework (CPGF)	
	P. Project Governance
	A. Project Steering Committee
	D. Ethical, responsible conduct and conflict of interest
1. Code	<p><i>1. Standards</i> <i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i></p> <ul style="list-style-type: none"> • <i>Environment</i> • <i>Social aspects</i>



	<ul style="list-style-type: none"> • <i>Socio-economic aspects</i> • <i>Conflict of interest guidelines</i> <p>2. <i>Adherence</i> <i>Adherence to the code of ethics should be disclosed and reported on a monthly basis.</i></p> <p>3. <i>Disclosure</i> <i>Code should be made publicly available and any changes to the code or waivers from the code must be disclosed</i></p>
3. Integrated sustainability	<p>1. <i>Adherence</i> <i>SHE requirements should be to international standards, as a minimum, supplemented by host country requirements.</i></p>
4. Social	<p>1. <i>Adherence</i> <i>Social and socio-economic considerations should be to international standards, as a minimum, supplemented by host country requirements.</i></p>
Observations	<p>Although limited information is available regarding specific oil projects, the whole program of oil field development in Ecuador is clouded in severe human rights and environmental violations. Acknowledging that the area is difficult to work in, the proper community education and development should form part of the sustainability and socio-economic development of the region.</p>



Case Study B.15: Ok Tedi Mine – Papua New Guinea

Sources: Zillman *et al.* (2002)

The Ok Tedi copper mine lies in the south western area of Papua New Guinea (PNG). South of the mine lies the Lower Ok Tedi area, populated by approximately 3 000 people. The Ok Tedi River runs from the northern part towards the south, with about 40 000 people occupying the banks of the river. The mines started operating in 1981, when Broken Hills Properties Co. Ltd. (BHP) from Australia, and Ok Tedi Mining Limited (OTML) obtained a mining licence from the PNG government. According to the agreement, BHP/OTML were not to discharge tailings and wastes into the river and the development of waste disposal facilities commenced after the approval of USD\$ 65 million by the corporate board.

With the waste-disposal facilities well into the development phase, heavy rainfall and land tremors (quite common in the area) resulted in a major landslide that swept down the side of the mountain. A total of 60 million tonnes of overburden and tailings discharged into the river. The environmental pollution smothered vegetation along the river banks, impacted fisheries and caused major skin diseases to those using the river for washing. The inhabitants along the river (plaintiffs) launched a legal claim of USD\$ 2.84 billion against BHP/OTML over alleged environmental pollution. The court proceedings commenced in the Supreme Court of Victoria, where the defendant denied any wrongdoing, claiming that all activities were conducted under the license promulgated by the PNG government. Of major concern (and strengthening the case for a global standard for project governance) was the defendant's reasoning that the actions of BHP/OTML were sanctioned under PNG laws. Obviously, as a developing country with hardly any industrial development, no laws requiring environmental assessment and social impact considerations exist.

Eventually the case was settled outside of the court, whereby BHP/OTML had to (among other agreements) compensate the affected parties financially to the amount of USD\$ 150 million and cover the plaintiffs' legal costs.

Although the case was never fully tested in court, the case clearly highlighted the need for some form of internationally agreed upon guideline, or even legislation, for handling environmental, socio and socio-economic studies.

CPGF performance criteria: Failure

Project Governance Adherence

Concept Project Governance Framework (CPGF)

P. Project Governance	
A. Project Steering Committee	
1. Composition	<i>1. Core Competencies</i> <ul style="list-style-type: none">• <i>Crisis response</i>• <i>Front-end-Loading management</i>• <i>Leadership</i>
2. Responsibility	<i>1. Committee Accountability</i> <i>Overall accountability</i> <i>Bridging the gap between project and immediate external and statutory environment.</i>
Observations	The project was overshadowed by the environmental disaster: the type of crisis response and leadership will always be judged by the way the situation was handled. The defendant's claim of innocence in a situation like this can potentially convey the wrong message, but the satisfactory settlement was a good recovery. A major criticism is the lack of upfront planning (front-end loading) that could have prevented the disaster.
D. Ethical, responsible conduct and conflict of interest	
1. Code	<i>1. Standards</i> <i>A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum):</i> <ul style="list-style-type: none">• <i>Environment</i>• <i>Social aspects</i>• <i>Socio-economical aspects</i>• <i>Conflict of interest guidelines</i> <i>2. Adherence</i> <i>Adherence to the code of ethics should be disclosed and reported on a monthly basis.</i>



	<p><i>3. Disclosure</i> <i>Code should be made publicly available and any changes to the code or waivers from the code must be disclosed.</i></p>
Observations	The project could be considered a landmark case in the formalisation of environmental requirements for large projects.



References

- ABEDNEGO, P.M. and OGUNLANA, S. O. 2006. Good project governance for proper risk allocation in public-private partnerships in Indonesia. *International Journal of Project Management*, 2006, Vol. 24, pp 622-634.
- ARBANI, F. 2006. *Case Studies in Project Management*, <http://www.pmi.org/Search/AdvancedResults.aspx?k=case%20studies&s=Everywhere>. Accessed 31 July 2007.
- ARMSTRONG, P. 2005. *Report on the Governance Structures for the Lesotho Highlands Water Project*. Edward Nathan Corporate Law Advisors, May 2005.
- Asian Development Bank. 2001. Saving Asia's Environment 2001. *The Asian Development Bank Review*, December 2001 Issue.
- Association for Project Management (APM). 2004. *Directing Change: A Guide to Governance of Project Management*. www.apm.org.uk.
- Association for Project Management (APM). 2005. *A guide to governance of project management.*, www.apm.org.uk. Audit Committees. Combined Code Guidance, A report and proposed guidance by an FRC appointed group chaired by Sir Robert Smith. January 2003.
- ATKINSON, R.A. 1999, Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria, *International Journal of Project Management*, Vol. 17, No. 6, pp.337-342.
- BASKIN, J.B. and MIRANTI, P.J. 1997, from Micklethwait and Wooldridge, 2003. *A History of Corporate Finance*. Cambridge: Cambridge University Press.
- BELASSI, W. and TUKEL, O.I. 1996. A new framework for determining critical success/failure factors in projects, *International Journal of Project Management*, 1996, Vol.14, No. 3, pp 141-151.
- BERLE, A.A. and MEANS, G.C. 1968. *The Modern Corporation and Private Property*, Revised Edition, New York: Harcourt, Brace & World Inc.



- from MICKLETHWAIT, J. & WOOLDRIDGE. A., 2003. *The Company: A Short History of a Revolutionary Idea* London, UK: Weidenfeld & Nicholson.
- Bird Life International. 2003. *Conflict areas between the TENs and nature conservation*, http://www.birdlife.org/action/change/europe/tent_case_studies.pdf. Accessed 26 July 2007.
- BLACK, K. 1996. Causes of Project Failure: A survey of professional engineers, *PM Network*, November 1996, pp 21-24.
- BLOXHAM, E. 2002, *Value-led organisations*. Capstone Publishing: Oxford.
- BOYLE, A.E. and ANDERSON, M.R. 1996. *Human Rights Approaches to Environmental Protection*. Clarendon Press: Oxford.
- BROMLEY, D. B. 1986. *The Case-study Method in Psychology and Related Disciplines*. New York: John Wiley & Sons.
- BRYMAN, A. 1988. *Quantity and Quality in Social Research*. London: Unwin Hyman.
- BRYSON, J.M. and BROMILEY, P. 1990. The Art of Continuous Change: Launching Complements Theory and Term-paced Evolution in a Relentlessly Shuffling Organisation, *Administration Science Quarterly*, Vol. 42, pp 1-34.
- BUCKLEY, C. 1995. Delphi: a methodology for preferences more than predictions, *Library Management*, Vol. 16, No. 7, pp 16-19. ?
- BURKE, R. 1999. *Project Management – Planning & Control Techniques*, 3rd ed. Startford Upon Avon: Promatec International.
- CADBURY, A. 1992. *Report of the Committee on the Financial Aspects of Corporate Governance*. Gee & Co. Ltd, London.
- Caithness Community Website. 2005. *Are you aware of the PPP issues?*, <http://www.caithness.org>, 23 October 2005. Accessed on 27 July 2007.
- Cambridge International Dictionary of English. 1995. Cambridge University Press.
- CANTRILL, J.A., SIBBALD, B. and BUETOW, S. 1996. The Delphi and nominal group techniques in health services research, *International Journal of Pharmacy Practice*, Vol. 4, No. 2, pp. 67-74.
- CAVALLI-SFORZA, V. and ORTOLANO, L. 1984. Delphi forecasts of land-use – transportation interactions, *Journal of Transportation*



- Engineering*, Vol. 110, No. 3, pp. 324-39, from MULLEN, P., 2003, Delphi: Myths and Reality, *Journal of Health Organisation and Management*, Vol.17, No.1, pp. 37-52.
- CHANDLER, A.D. and SALISBURY, S. 1965. The Railroads: Innovators in Modern Business Administration, in Mazlish, B., ed. *The Railroad and the Space Program: An Exploration of Historical Analogy*, pp 127 162, Cambridge: MIT Press, from MILLER, R. & LESSARD, D., eds. 2000. *The Strategic Management of Large Engineering Projects: Shaping Institutions, Risks and Governance*. Massachusetts: Massachusetts Institute of Technology.
- CLELAND, D.I. 1986. Measuring Success: The Owner's Viewpoint, *Proceedings of the 18th Annual Seminar/Symposium*, Montreal, Canada, Project Management Institute, pp 6-12.
- CRAWFORD, L. and POLLACK, J. 2007. How generic are project management knowledge and practice? *Project Management Journal*, Vol 38, No 1, pp 87-96.
- CRITCHER, C. and GALDSTONE, B. 1998. Utilising the Delphi technique in policy discussion: a case study of a privatised utility in Britain, *Public Administration*, Vol. 76, No. 3, pp 431-50.
- CRUVER, B. 2003. *Enron: Anatomy of Greed*. Reading, Berkshire: Arrow Books, Cox & Wyman Ltd.
- CYERT, R.M. and MARCH, J.G. 1963. *A Behavioural Theory of the Firm*, Englewood Cliffs, NJ: Prentice Hall.
- DALKEY, N.C. 1967. *Delphi*, Rand Corporation.
- DALKEY, N. and HELMER, O. 1963. An experimental application of the Delphi method to the use of experts, *Management Science*, Vol. 9, pp. 458-67.
- DELBECQ, A.L., VAN DE VEN, A.H. and GUSTAFSON, D.H. 1975. *Group Techniques for Program Planning: a guide to nominal group and Delphi processes*. USA; Scott, Foresman and Company.
- DEVAPRIYA, K.A.K. 2006. Governance issues in financing of public-private partnership organisations in network infrastructure industries, *International Journal of Project Management*, Vol 24, pp 557 – 565.



- DICKSON, P.G.M. 1993. *The Financial Revolution in England: A Study in the Development of Public Credit in England 1688 – 1756*, Aldershot, Hampshire, U.K.: Gregg Revivals, from MICKLETHWAIT, J. & WOOLDRIDGE, A. 2003. *The Company: A Short History of a Revolutionary Idea*. London, UK: Weidenfeld & Nicholson.
- DOSI, G. 1982. Technology Paradigms and Technological Trajectories: A Suggested Interpretation of the Determinants and Directions of Technical Change, *Research Policy*, vol. 11, no. 3, pp 147 – 192.
- DRORI, G.S., MEYER, J.W. and HWANG, H. 2006, *Globalization and Organization*, New York: Oxford Press
- DUNLOP, A. 1998. *Corporate Governance and Control*, London: The Chartered Institute of Management Accountants
- DVIR, D. and SHENHAR, A.I. 1992. Measuring the success of technology-based strategy business units, *Engineering Management Journal*, 1992 vol. 4, no 4, pp 33-38.
- e-architect. 2004. *Lack of consultation with teachers leads to concern over quality of school rebuilds*. <http://www.e-architect.co.uk>, May 2004. Accessed on 27 July 2007.
- EASTERLY, W. 2001. *The Elusive Quest for Growth: Economist's Adventures and Mis-adventures in the Tropics*. Cambridge: MIT Press.
- ECKSTEIN, H. 1975. Case study and theory in political science. In Greenstein, F.I. & Polsby, N.W. (Eds.). *Handbook of Political Science*, Volume 7: Strategies of Enquiry.
- EDWARDS, D.J.A. 1989. How clinical theory and practice are actually developed – Case study method in cognitive behaviour therapy, *Knowledge and Method: On the Philosophy and Methodology of the Human Sciences*. Pretoria: Human Resources Research Council.
- EISENHARDT, K.M. 1989. Building Theories from Case Research, *Academy of Management Review*, Vol. 14, No. 4, pp 532 – 550.
- EKSTEDT, E., LUNDIN, R.A., SÖDERHOLM, A. and WIRDENIUS, H. 1999. *Neo-Industrial Organising: Renewal by action and knowledge formation in a project-intensive economy*, London: Routledge
- EKSTEDT, E., LUNDIN, R.A., SÖDERHOLM, A. and WIRDENIUS, H. 1993. Project organization in the squeeze between short-run flexibility and



- long-run inertia, PMI'93 Seminar/Symposium, *Smooth Sailing with Project Management*. San Diego, CA: Project Management Institute.
- EKSTEDT, E., LUNDIN, R.A., SÖDERHOLM, A. and WIRDENIUS, H. 1999. *Neo-Industrial Organising: Renewal by action and knowledge formation in a project-intensive economy*. London: Routledge.
- EL-MARASHLY, A.F. 1990. Project Management as perceived from ancient Egyptian projects. in *Dimensions of Project Management*. Edited by Reschke, H. and Schelle, H. Munich: Springer-Verlag, pp 275-289.
- EMORY, C.W. 1985. *Business Research Methods*, 3rd Ed. Homewood, Illinois: Irvin.
- Engineering News. 2006. *German firm blacklisted by World Bank in light of Lesotho corruption*, Issue 2006/11/06.
- Environment Canada, 2007, *Waste Management – Vancouver Project*. <http://www.ec.gc.ca/wmd-dgd/default.asp?lang=En&n=FA04A146-1>. Accessed on 29 July 2007.
- ESTY, B.C. 2004. *Modern Project Finance – A Casebook*, Boston: John Wiley & Sons.
- European Bank for Reconstruction and Development (EBRD). 1999. *Ventspils Port Multi-Purpose/Intermodal Terminal – Latvia*, <http://www.ebrd.com/projects/psd/psd1999/5920.htm>. Accessed on 29 July 2007.
- European Bank for Reconstruction and Development (EBRD). 2000. *EBRD promotes improved water, waste-water services in Sofia*, Press Release, 15 December 2000. <http://www.ebrd.com/new/pressrel/2000/112dec15x.htm>. Accessed on 27 July 2007.
- European Bank for Reconstruction and Development (EBRD). 2002. *JSC Channel Energy Poti Port*. <http://www.ebrd.com/projects/psd/psd2000/11846.htm>. Accessed on 29 July 2007.
- FERGUSON, N. 2001. *The Cash Nexus: Money and Power in the Modern World 1700 – 2000*. London: Allen Lane.



- FISHER, K., JUNGBECKER, A. and ALFEN, H.W. 2006. The emergence of PPP task Forces and their influence on project delivery in Germany, *International Journal of Project Management*, Vol 24, pp 539 – 547
- FLYVBJERG, B. 2005. Design by Deception, *Harvard Design Magazine*, Spring / Summer 2005
- FLYVBJERG, B. 2006. Five Misunderstandings About Case-Study Research, *Qualitative Inquiry*, Vol. 12, No. 2, pp 219 – 245.
- FLYVBJERG, B., BRUZELIUS, N. and ROTHENGATTER, W. 2003. *Megaprojects and Risk: An Anatomy of Ambition*. Cambridge: Cambridge University Press.
- FORSBERG, K., MOOZ, H. and COTTERMAN, H. 2000. *Visualizing Project Management*. 2nd ed. New York: John Wiley & Sons Inc.
- FRAME, J.D. 1999. Course notes: Pre-conference Workshop, PMISA, Johannesburg, South Africa.
- FRAME, J.D. 1999. Project'99 – Pre-Forum Workshop, *IIR Training*, Johannesburg.
- Friends of the Earth International. 2001. *Towards binding corporate accountability*.
<http://www.foei.org/publications/corporates/accountability.html>.
Accessed on 22 April 2007.
- FUNDAHL, J.W. 1987. The history of modern project management, *Project Management Journal*, Vol.28, No.2, pp. 33-36.
- GIDDENS, A. 1984. *The Constitution of Society: Outline of the Theory of Structuration*. Berkeley: University of California Press.
- GILLIBRAND, M. 2004. New frontiers for corporate governance in 2004 and beyond, *Corporate Governance Journal*, Vol. 4, No. 1, pp. 4-21.
- GIOIA, J. 1996. Twelve reasons why programs fail, *PM Network*, November 1996, pp 16-19.
- GITMAN, L.J. 2003. *Principles of Managerial Finance*. 10th Edition. Boston: Addison Wesley.
- GLASER, B. And STRAUSS, A. 1967, *The Discovery of Grounded Research*, New York: Aldine, Hawthorne.
- GOODMAN, C.M. 1987. The Delphi technique: a critique, *Journal of Advanced Nursing*, Vol.12, pp. 17-31, from MULLEN, P., 2003, Delphi:



- Myths and Reality, *Journal of Health Organisation and Management*, Vol.17, No.1, pp. 37-52.
- GOODMAN, R.A. 1981. *Temporary Systems. Professional Development, Manpower Utilisation, Task Effectiveness, and Innovation*. New York; Praeger.
- GRAY, C.G. and LARSON, E.W. 2000. *Project Management – The Managerial Approach*. Irwin: McGraw-Hill.
- Halliburton, . 2002. KBR signs contract for the Czech Republic's D47 Motorway. Press Release, 04 July 2004.
- HANDLIN, O. and HANDLIN, M. 1953. From Micklethwait and Wooldridge, 2003, "Origins of the American Business Corporation", Lane, F. (ed), *Enterprise and Secular Change*. Homewood, Illinois: Richard Irwin.
- HELMER, O. 1977. Problems in futures research: Delphi and causal cross-impact analysis *Futures*, Vol.9, pp. 17-31.
- HELMER-HIRSCHBERG, O. 1967. *Analysis of the Future : The Delphi Method*, Rand Corporation.
- HERRIOTT, R.E. and FIRESTONE, W.A. 1983. Multisite qualitative policy research: Optimizing description and generalizability, *Educational Researcher*, Vol 12, pp 14-19,
- HIRSCH, R.F. 1989. *Technology and Transformation in the American Electric Utility Industry*. Cambridge: Cambridge University Press.
- HODGSON, G.M. 1993. Introduction and Conception and Evolution in Economics? Three Twentieth-Century Theorists, *Economics and Evolution: Bringing Life Back Into Economics*, Vol. 1, No. 52, pp 121 – 185. Cambridge: Cambridge University Press.
- HOLLINGSWORTH, J.R. and BOYER, R. eds. 1997. *Contemporary Capitalism: The Embeddedness of Institutions*. Cambridge: Cambridge University Press.
- HOOD, C. and JONES, D. 1996. *Accident and Design: Contemporary Debates in Risk Management*, London: UCL Press.
- HUGHES, T.P. 1988. *Rescuing Prometheus*. New York: Pantheon.
- INGRAM, G. 1994. *Infrastructure and Development*, World Bank Report. Washington DC: World Bank.



- INNES, H.A. 1970. *A History of the Canadian Pacific Railroad*, Toronto: University of Toronto Press, from MILLER, R. & LESSARD, D., eds., 2000, *The Strategic Management of Large Engineering Projects: Shaping Institutions, Risks and Governance*. Massachusetts: Massachusetts Institute of Technology.
- IOD (Institute of Directors). 2002. *Corporate Governance in South Africa – A comparison of the King Report 2002 and The Sarbanes-Oxley Act of 2002*. PriceWaterhouseCoopers.
- ISHIKAWA, A., AMAGASA, M., SHIGA, T., TOMIZAWA, G., TATSUTA, R. and MIENO, H. 1993. The max-min Delphi method and fuzzy Delphi method via fuzzy integration, *Fuzzy Sets and Systems*, Vol. 55, No. 3, pp. 241-53, from MULLEN, P., 2003, Delphi: Myths and Reality, *Journal of Health Organisation and Management*, Vol.17, No.1, pp. 37-52.
- JAAFARI, A. 2001. Management of risks, uncertainties and opportunities on projects: time for a fundamental shift, *International Journal of Project Management*, Vol 19, pp. 89-101.
- JAY, P. 2000. *Road to Riches*, London: Weidenfeld & Nicolson.
- JESSOP, B. 1997. The Governance of Complexity and the Complexity of Governance: Preliminary Remarks of Some Problems and limits of Economic Guidance, In Amin, A and Hausner, J., eds., *Beyond Market and Hierarchy*, pp 95 – 128, Cheltenham, UK: Edward Elgar.
- JOLIVET, F AND NAVARRE, C. 1996. Large-scale projects, self-organizing and meta-rules: towards new forms of management, *International Journal of Project Management*, Vol. 14, No. 5, pp. 265-271.
- JONES, A.H.M. 1974. from Micklethwait and Wooldridge, 2003, *The Roman Economy: Studies in Ancient Economic and Administrative History*. Oxford: Basil Blackwell.
- JÖNSSON, S. and LUNDIN, R. 1976. Problem Solving without a Problem, *FE Rapport 1976:64*. University of Gothenburg.
- KATZENSTEIN, P.J. 1985. *Small States in World Markets: Industrial Policy in Europe*, Ithaca. New York: Cornell University Press.
- KERZNER, H. 1998. *Project Management – A Systems Approach to Planning, Scheduling and Controlling*, 6th ed. New York: John Wiley & Sons.



- KERZNER, H. 2006. *Project Management Case Studies, Second Edition*. John Wiley & Sons, New Jersey: Hoboken.
- KOCH, C. and BUSER, M. 2006. Emerging metagovernance as an institutional framework for public private partnership networks in Denmark, *International Journal of Project Management*, Vol 24, pp 548 – 556.
- KREINER, K. 1992. The postmodern epoch of organization theory, *International Studies of Management and Organization*, Vol. 22, No. 2, pp. 37-52.
- King Committee on Corporate Governance. 1994. *King Report on Corporate Governance for South Africa 1994* [King Report 1994], Institute Of Directors, Johannesburg, South Africa.
- King Committee on Corporate Governance. 2002. *King Report on Corporate Governance for South Africa - 2002* [King Report 2002], Institute Of Directors, Johannesburg, South Africa.
- KLIEM, R.L., LUDIN, I.S. and ROBERTS, K.L. 1997. *Project Management Methodology*. New York: Marcel Dekker Inc.
- KLOPPENBERG, T.J. and OPFER, W.A. 2000. Forty years of project management research: trends, interpretations and predictions, *Proceedings of PMI Research Conference 2000 "Project Management Research at the Turn of the Millennium"*, pp.41-60, Project Management Institute, Newton Square, PA.
- KOSKELA, L. and HOWELL, G. 2002. The underlying theory of project management in obsolete, *Proceedings of PMI Research Conference*, Seattle, USA.
- KPMG. 2003. *Toolkit for the Company Director*, 2nd Edition.
- LAFFONT, J.J. and TIROLE, J. 1993. *A Theory of Incentives in Procurement and Regulation*. Cambridge: MIT Press.
- LAZONICK, W. 1992. Business Organisation and Competitive Advantage: Capitalist Transformations in the Twentieth Century, from Dosi, G., Giannetti, R. & Toninelli, P.A., eds., *Technology and Enterprise in a Historical Perspective*, pp 119-163. Oxford: Clarendon.
- LEEDY, P.D. and ORMROD, J.E. 2001. *Practical Research – Planning and design*, 7th ed. Upper Saddle River: Merril Prentice Hall.



- LEGACE, J. 2006. Project success builds on a well-defined scope, *Chemical Engineering*.
- LETZA, S., SUN, X. and KIRKBRIDE, J. 2004. Shareholding versus Stakeholding: a critical review of corporate governance, *Corporate Governance*, Vol.12, No. 3, pp. 242-262.
- LHWP. 2005. <http://www.lhwp.org.ls/overview/overview.htm>. Accessed on 27 July 2007.
- LINDEMAN, C.A. 1975. Delphi survey of priorities in clinical nursing research, *Nursing Research*, Vol. 24, No. 6, pp. 434-42, from MULLEN, P., 2003, Delphi: Myths and Reality, *Journal of Health Organisation and Management*, Vol.17, No.1, pp. 37-52.
- LIENTZ, B.P. and REA, K.P. 2001. *Breakthrough Technology Project Management*, 2nd ed. San Diego: Academic Press.
- LINSTONE, H.A. 1978. The Delphi technique, in Fowles, R.B., (Ed.), *Handbook of Futures Research*, pp. 271-300. Greenwood, Westport, CT.
- LINSTONE, H.A. 2002. VIII. Eight basic pitfalls: A checklist, from Linstone, H.A. and Turoff, M. (Eds), *The Delphi Method: Techniques and Applications*. <http://is.njit.edu/pubs/delphibook/>. Accessed on 27 July 2007
- LINSTONE, H.A. and TUROFF, M. 2002. I - Introduction to the Delphi method: techniques and applications, from Linstone, H.A., & Turoff, M. (Eds), *The Delphi Method: Techniques and Applications*. <http://is.njit.edu/pubs/delphibook/>. Accessed on 26 July 2007
- LIU, L. and YETTON, P. 1995. The contingent effects of project governance mechanisms on project delivery capability and the level of control – evidence from the construction and IT service industries, *Proceedings of the Pan-Pacific Business Conference XXII*, Shanghai, China.
- LOO, R. 2002. The Delphi method: a powerful tool for strategic management, *Policing: An International Journal of Police Strategies and Management*, Vol. 25, No. 4, pp. 762-769.
- LUNDIN, R.A. and SÖDERHOLM, A. 1995. A theory of the temporary organization, *Scandinavian Journal of Management*, Vol.11, No. 4, pp. 437-455.



- MAF Information Bureau. 2007. <http://www.maf.govt.nz>. Accessed on 24 October 2007
- Major Projects Association. 1994. *Beyond 2000: A Source Book for Major Projects*. Oxford: Templeton College.
- MALLIN, C.A. 2005. *Handbook of International Corporate Governance – Country Analysis*. Edward Elgar, Cheltenham, UK.
- MANICKAS, P. And SHEA, L. 1997. Hotel complaint behaviour and resolution: A content analysis, *Journal of Travel Research*, Vol. 36, No. 2, pp.68-73
- MARCH, J.G. 1981. Footnotes to organizational change, *Administrative Science Quarterly*, Vol. 26, pp. 563-577.
- MARKANDYA, A. and SHARMA, R.Y. 2004. Case Study on Tajikistan Pamir Private Power Project, *Conference on Scaling Up Poverty Reduction*, Shanghai, China, March 25-27, 2004.
- McCLEARN, M. 2004. Shady Acres, *Canadian Business*, Issue: August 16/2004.
- McGREGOR, L. 2000. *The Human Face of Corporate Governance*, Basingstoke: Palgrave.
- McKEE, M., PRIEST, P., GINZLER, M. and BLACK, N. 1991. How representative are members of expert panels? *Quality Assurance in Health Care*, Vol. 3, pp. 89-94.
- MELGRATI, A. and DAMIANI, M. 2002. Rethinking the project management framework: New epistemology, new insights, *Proceedings of PMI Research Conference*, Seattle, USA.
- MERROW, E., McDONNELL, L. and ARGÜDEN, R. March 1988. *Understanding the outcomes of megaprojects: A quantitative analysis of very large civilian projects*, The Rand Corporation Publication Series #R-3560-PSSP.
- MEYER, J.W. and ROWAN, B. 1977. Institutionalised Organisations: Formal Structure as Myth and Ceremony, *American Journal of Sociology*, Vol.83, pp 340-363.
- MEYER, J.W. and SCOTT, W.R. 1992. *Organizational Environments: Ritual and Rationality*. New Park, CA: Sage.



- MICKLETHWAIT, J. and WOOLDRIDGE, A. 2003. *The Company: A Short History of a Revolutionary Idea*. London, UK: Weidenfeld & Nicholson.
- MILES, M.B. 1964. On temporary systems, *Innovation in Education*, pp 437-490.
- MILLER, R. and FLORICEL, S. 2000. Transformations in Arrangements for Shaping and Delivering Engineering Projects, from MILLER, R., and LESSARD, D., eds., 2000, *The Strategic Management of Large Engineering Projects: Shaping Institutions, Risks, and Governance*. Massachusetts: Massachusetts Institute of Technology.
- MILLER, R. and HOBBS, B. 2005. Governance regimes for large complex projects, *Project Management Journal*, Vol 36, No 3, pp 42 – 50.
- MILLER, R. and LESSARD, D., eds. 2000. *The Strategic Management of Large Engineering Projects: Shaping Institutions, Risks and Governance*. Massachusetts: Massachusetts Institute of Technology.
- MINTZ, J.M. and PRESTON, R.S. 1994. *Infrastructure and Competitiveness*. Kingston, Ontario: John Deutsch Institute.
- MITCHELL, J.C. 1983. Case and situational analysis, *The Sociological Review*, 31 (2), 187 – 211.
- MONKS, R.A.G. and MINOW, N. 1995. *Corporate Governance*. 2nd Edition. Oxford: Blackwell Publishers Incorporated.
- MOORE, K. and LEWIS, D. 2001. *Foundations of Corporate Empire*, London: Financial Times / Prentice Hall.
- MORGAN, G. 1997. *Images of Organisation*, 2nd Edition. California: Sage.
- MORRIS, P.W.G. 1994. *The Management of Projects*. London: Thomas Telford Publishing.
- MORRIS, P.W.G. 2004. Moving from Corporate Strategy to Project Strategy: Leadership in Project Management, *PMI Research Conference 2004*, United Kingdom: London.
- MORRIS, P.W.G. and HOUGH, G.H. 1987. *The Anatomy of Major Projects: A study of the reality of project management*. Chichester, England: John Wiley & Sons, Inc.
- Mozal Aluminium Smelter. 2001. *Spectrum: SNC-Lavalin*, http://www.snc-lavalin.com/en/2_0/pdf/mozal-eng.pdf. Accessed on 3 April 2007



- Mozal - An Overview. 2005. <http://www.mozal.com/>, site accessed 03 April 2007
- MULLEN, P. 2003. Delphi: Myths and Reality, *Journal of Health Organisation and Management*, Vol.17, No.1, pp. 37-52.
- National Association of Corporate Directors (NACD) Commission, 2002, from KPMG, Toolkit for the Company Director, 2nd Edition.
- NAIDOO, R. 2002. *Corporate Governance: An Essential Guide for South African Companies*. Cape Town: Double Storey Books.
- NAIRU, Z. 1990. Project Management and Project Manager in China, *Proceedings of the 14th International Expert Seminar*, Zurich.
- NICHOLAS, J.M. 2001. *Project Management for Business and Technology*, 2nd ed. New Jersey: Prentice Hall.
- Noord Natie Venstpils Terminals. 2007. Company information on website, <http://www.nnvt.lv/>. Accessed 29 July 2007.
- NORTH, D.C. 1990. *Institutions, Institutional Change, and Economic Performance*. Cambridge: Cambridge University Press.
- OECD, Principles of Corporate Governance - 2004 Edition. OECD Publication Services, France.
- Office of Government Commerce (OGC). 2005. *Successful Delivery ToolkitTM*, www.ogc.gov.uk. Accessed on 21 August 2006.
- ORIGO, I. 1992. *The Merchant of Prato: Daily Life in a Medieval Italian City*. London: Penguin.
- PAGE, C. and MEYER, D. 2005. *Applied research design for business and management*. Australia, McGraw-Hill.
- Penguin Reference Books. 1985. *The Penguin English Dictionary*, Harmondsworth: Penguin Books.
- PHILLIPS, R. 2000. New applications for the Delphi technique, *Annual "San Diego" Pfeiffer and Company*, Vol.2, pp. 191-196, from MULLEN, P., 2003, Delphi: Myths and Reality, *Journal of Health Organisation and Management*, Vol.17, No.1, pp. 37-52.
- PILL, J. 1971. The Delphi method: substance, context, a critique and an annotated bibliography, *Socio-economic Planning Science*, Vol.5, No.1, pp. 57-71.



- PINTO, J.K. 2006, Principles of Governance for Major Investment Projects, *Concept Symposium*, Trondheim, Norway, www.prestasjondelese.net/concept06/presentations/pinto.pdf, accessed 14 July 2008.
- PINTO, J.K. and MANTEL, S.J. The Causes of Project Failure, *IEEE Transactions on Engineering Management*, November 1990, Vol.37, No. 4, pp 269-276.
- PINTO, J.K. and SLEVIN, D.P., 1988, Critical Success Factors Across the Project Life Cycle, *Project Management Journal*, Vol. 19, No. 1, pp. 67-72.
- Power Engineering*. 1990. Turnkey Contracts: Pitfalls and the Benefits, January, pp 31 – 34.
- PRINCE 2, Office of Government Commerce. 2003. *Managing Successful Projects with PRINCE 2*. 5th Impression. London: TSO.
- Project Management Institute. 2000. A Guide to the Project Management Body of Knowledge (PMBOK[®] Guide), 2000 ed. Project Management Institute, Inc, Maryland.
- Protocol VI. 1999. *Protocol VI to the Treaty on the Lesotho Highlands Water Project - supplementary arrangements regarding the system of governance for the project*.
- RAJU, R. 2007. Personal interview on 19 April 2007, Anglo Platinum Offices, Johannesburg, South Africa.
- REISS, G., ANTHONY, M., CHAPMAN, J., LEIGH, G., PYNE, A. and RAYNER, P. 2006. *Gower Handbook of Programme Management*. Gower Publishing, Hampshire: England.
- RENTZ, P.S. 2007. *Project Governance – Implementing Corporate Governance and Business Ethics in Nonprofit Organizations*. Physica-Verlag, Heidelberg: New York.
- ROSS, J.F.L. 1994. High-Speed Rail: Catalyst for European Integration?, *Journal of Common Market Studies*, June 1994, Vol. 21, No. 2, pp 191-214.
- ROSS, J.F.L. 1998 *Linking Europe: Transport Policies and Politics in the European Union*. Westport, CT: Praeger Publishers.



- ROZENES, S., VITNER, G. and SPRAGGETT, S. 2006. Project Control: Literature Review, *Project Management Journal*, Vol. 37, No. 4, pp 5-14.
- RWELAMILA, P.D., TALUKHABA, A.A. and NGOWI, B. 1999, Tracing the African Project Failure Syndrome: the significance of 'ubuntu', *Engineering, Construction and Architectural Management*, 1999, Vol 6, No. 4, pp 335-346.
- RYDER, G. 2007. *Auditors expose flaws in Three Gorges project management*, Probe International, 06 July 2007. C:\DATA GIEL 2007\PM Research\Case studies\Probe International PM audit.htm. Accessed on 30 July 2007.
- SACKMAN, H. 1975. Summary evaluation of Delphi, *Policy Analysis*, Vol.1, No. 4, pp. 693-718.
- SAICA (South African Institute of Chartered Accountants). 2002. *SAICA Handbook, Auditing, Volume 2*, Kengray.
- SALISBURY, S. 1967. *The State, the Investor and the Railroad*. Cambridge: Harvard University Press.
- SAMPSON, A. 1995. *Company Man: The Rise and Fall of Corporate Life*. New York: Times Business.
- SCHEELE, D.S. 2002. II.C. Reality construction as a product of Delphi Interaction, from Linstone, H.A. & Turoff, M. (Eds) *The Delphi Method: Techniques and Applications*. <http://is.njit.edu/pubs/delphibook/>. Accessed on 5 April 2007
- SCHOLL, W., KÖNIG, C., MEYER, B. and HEISIG, P. 2004. The future of knowledge management: an international study, *Journal of Knowledge Management*, Vol.8, No.2, pp 19-35.
- SCOTT, W.R. 1994. *Institutions and Organisations: Towards a Theoretical Synthesis*, in Scott, W.R.. and Meyer, J., eds. *Institutional Environments and Organisations*, pp 55-80. Thousand Oaks, Sage.
- SEIB, G. and HARWOOD, J. 2002. "Rising Anxiety: What Could Bring 1930s-Style Reform of U.S. Businesses. *Wall Street Journal*, July 25, 2002.
- SHANI, A.B. and LAU, J.B. 1996. *Behaviour in organisations – an experimental approach*, 6th ed. Irwin, London.



- SHEN,L., PLATTEN, A. and DENG, X.P. 2006. Role of public private partnerships to manage risks in public sector projects in Hong Kong, *International Journal of Project Management*, 2006, Vol.24, pp 587-594.
- SHENHAR, A.J., LEVY, O. and DVIR, D. 1997. Mapping the Dimensions of Project Success, *Project Management Journal*, 1997, Vol.28 No.2, pp 5-13.
- SHERIDAN, T. and KENDALL, N. 1992. *Corporate Governance: An Active Plan for Profitability and Business Success*. Pitman Publishing: London
- SKAMRIS, M.K. 1994. *Large Transport Projects: Forecast Versus Actual Traffic and Costs*, Report no.151. Aalborg: Department of Development and Planning, Aalborg University.
- SMERDON, R. 1998. *A practical guide to corporate governance*. Sweet & Maxwell, London.
- SMITH, A.L. 2006. The Governance Model: The Private-Public Partnership Embodiment, Management Analysis. <http://www.crgp.stanford.edu/events/presentations/gcr2/Smith.ppt>. Accessed on 28 August 2006
- South Africa, 2001: Cliffe Dekker:- King Report on Corporate Governance for South Africa 2002: Introduction, pp1-2, <http://www.cliffedekker.co.za/literature/corpgov/index.htm>. Accessed on 5 July 2005
- STOVER, J.F. 1997. *American Railroads*, Second Edition, Chicago: University of Chicago Press, from MILLER, R. & LESSARD, D., eds. 2000. *The Strategic Management of Large Engineering Projects: Shaping Institutions, Risks, and Governance*. Massachusetts: Massachusetts Institute of Technology.
- Summary Case Study Library – PMI. 2007. <http://www.pmi.org/WhoWeAre/Pages/case-study-library.aspx>,. Accessed on 31 July 2007.
- SWANSON, E.R. and RAMILLER, N.C. 1997. The Organising Vision in Information Systems Innovation, *Organization Science*, Vol. 8, No. 5, pp 458 – 474.



- The Standish Group. 1995. The Standish Group Report: T23E – T10E, <http://www.scs.carlton.ca/~beau/PM/Standish-Report.html>. Accessed on 28 August 2006
- The Standish Group. 2003. Press Release – Latest Standish Group CHAOS Report Shows Project Success Rates Have Improved by 50%. March 25, 2003. <http://www.standishgroup.com/press/article.pho?id=2>. Accessed on 28 August 2006.
- The United States of America. *The Sarbanes Oxley Act of 2002*. Government Printer.
- The World Bank Group. 2007. *Bringing Power to the Poor in the Pamirs - Tajikistan Pamir Private Power Project*, <http://lnweb18.worldbank.org/eca/eca.nsf/General/66201C6DC20F591785256C32006D471A?OpenDocument> Accessed on 26 July 2007.
- THOMPSON JR, A.A. and STRICKLAND III, A.J. 1996. *Strategic management – concepts and cases*. 9th ed. Irwin: McGraw-Hill.
- TILLY, C. 1984. *Big Structures, Large Processes, Huge Comparisons*. New York: Russell Sage Foundation.
- Treaty on The Lesotho Highlands Water Project between The Government of the Republic of South Africa and The Government of the Kingdom of Lesotho. 1986.
- TURBIN, N. 2003. *IT Governance and Project Governance*, The Project Perfect White Paper Collection. www.projectperfect.com.au. Accessed on 24 August 2006.
- TURNBULL, S. 1997. Corporate Governance: Its Scope, Concerns and Theories, *Corporate Governance*, Vol.5, pp180-205.
- TUROFF, M. 1970. The design of a policy Delphi, *Technological Forecasting and Social Change*, Vol. 2, No. 2, pp. 149-71.
- United Nations, Economic and Social Council. 2005. Governance in Public Private Partnerships for Infrastructure Development. TRADE/WP.5/2005/2.
- WEISS, J.W. and WYSOCKI, R.K. 1992. *5-Phase Project Management*. New York: Perseus Books Publishing.
- Wikipedia. 2007. Case study research. http://en.wikipedia.org/wiki/Case_study. Accessed 2 May 2007.



- Wikipedia. 2007. Three Gorges dam. http://en.wikipedia.org/wiki/Three_Gorges_Dam. Accessed on 30 July 2007.
- WILD, C. and TORGERSEN, H. 2000. Foresight in medicine: lessons from three European Delphi studies, *European Journal of Public Health*, Vol. 10, No. 2, pp. 114-9.
- YEO, K.T. 1995, Planning and learning in major infrastructure development: systems perspectives, *International Journal of Project Management*, Vol. 13, No. 5, pp. 287-293.
- YERGIN, D. and STANISLAW, J. 1998. *The Commanding Heights: The Battle Between Government and the Marketplace that is Remaking the Modern World*. New York: Simon & Shuster.
- ZHUWAKINYU, M. 2003. *Corruption busting: Lesotho in brave fight against graft*. Engineering News, Issue: 27 January 2003.
- ZHUWAKINYU, M. 2004. *Lesotho case shows that the corruptor is as guilty as the corrupted*. Engineering News, Issue: 30 July 2004.
- ZILLMAN, D.N., LUCAS, A.R. and PRING, G. 2002. *Human Rights in Natural Resource Development – Public Participation in the Sustainable Development of Mining and Energy Resources*. Oxford University Press; New York.
- YIN, R.K. 2003. *Case Study Research; Design and Methods*. London: Sage Publications.