



PHD DISSERTATION

Public Private Partnership Contract Management Failure in Information Technology Service
Delivery: A Qualitative Inquiry into the South African Department of Labour ERP
Implementation Project

by

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Declaration

I hereby declare that this thesis, “Public Private Partnership Contract Management Failure in Information Technology Service Delivery: A Qualitative Inquiry into the South African Department of Labour ERP Implementation Project” is my own work and all sources have been acknowledged through referencing.



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This has been a journey of immense challenge. There were times it was desolate, especially when I needed reassurance; as life happened, I wondered how an achievement so incredible could be so isolating and lonely. I was reminded by the poem ‘Footprints in the sand’ when anguish, sorrow and defeat overwhelmed me and I would ask God where He was. The answer I received was that God was carrying me when this journey seemed impossible.

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Abstract

This PhD research project investigated the failure of a Public Private Partnership (PPP) ICT service delivery project between the South African Department of Labour (DOL) and Siemens Information Services (SIS). The research investigated conditions contributing to management failure of the Enterprise Resource Planning (ERP) Implementation project, which had the objective of improving the Department of Labour's service operations and the transfer of ERP technology competence to the DOL. An important objective of this research was to develop an understanding of the special challenges of PPP management in the context of emerging and developing countries. International organizations such as the IMF, World Bank and United Nations (UN) have been encouraging emerging and developing countries to adopt PPPs as vehicles for developing technology competence and improving public sector efficiency. However, little research has been conducted to discover whether these countries have the competencies to successfully implement and manage PPPs. The goal of this PhD study was to develop an understanding of factors and conditions influencing the DOL-SIS PPP failure in order to develop theory and approaches, which could help improve management practices in the area of contracting-out ICT service delivery in the public sector of the Republic of South Africa.

The research was guided by an agency theory framework and utilised a multi-method approach to conduct three empirical investigations into the PPP institutional framework, project governance and public accountability aspects of the DOL-SIS project. Some important findings of this research are: (1) Robust institutional policies and governance mechanisms specific to PPPs for ICT service delivery are necessary but not sufficient to combat risks of failure; robust mechanisms for performance monitoring and penalties for shirking are also necessary. (2) Public sector managers need specialised knowledge and competence to effectively manage private partners in the execution of ICT PPP contracts; over dependence on the private partners can significantly increase the risk of project failure, and encourage opportunistic behaviour and shirking by the private partner. (3) Transparent project governance and public accountability mechanisms are necessary to maintaining public support and combating opportunistic behaviour of both private and public partners on a PPP ICT services project.

The thesis comprises three empirical studies: *Study 1* used an agency theory framework to interrogate the PPP institutional framework to understand its provisions for identifying and managing risk factors in ICT service delivery projects. *Study 2* analysed data from interviews with stakeholders, the contract meeting minutes and other relevant documents, guided by the agency theory framework to develop an understanding of project governance challenges. *Study 3* focused on identifying public accountability issues and used a critical discourse analysis methodology to interrogate the media discourse concerning the failure of the DOL-SIS ERP Implementation failure. Content analysis with the use of ATLAS/TI and automated tool was used to analyse all the relevant documents for the different studies.



The general contribution of this PhD research is an explanatory theory illustrating how interactions among institutional conditions, governance mechanisms, knowledge and management competence deficits, and the behaviour of the PPP actors reinforced dysfunctional organisational conditions, which resulted in project failure. The theory is illustrated using a causal loop modelling technique and a set of five theoretical propositions clarifying the organizational knowledge and competence challenges, which the public sector managers faced, and the consequences of these affecting the success of the PPP project. This is an important contribution to literature on the use of PPPs for ICT service delivery not only in emerging and developing country contexts, but in developed contexts as well. Other contributions specific to the South African perspective are: (1) **Study 1** revealed gaps in the institutional framework concerning the management of risks in ICT PPP projects. While South Africa has much experience with managing risks in the engineering and delivery of physical infrastructure, there is a comparable lack experience with managing ICT infrastructure implementation project risks. (2) **Studies 1 and 2** reveal gaps in the governance and accountability mechanisms and practices which can be exploited with adverse consequences to the public interest. These studies also point to the importance of robust transparency and governance mechanisms, and high levels of management competence to the effective risk management of PPPs for ICT service delivery. (3) **Study 3** reveals importance of the independent media in fostering debate, uncovering evidence, scrutinizing the activities of the actors in the DOL-SIS PPP and defending the public interest. The independent media played a critical role of agitating for public accountability when the DOL was reluctant to do so, and raising issues about SIS underperformance and pushing for public investigation into the governance of the DOL-SIS ERP Implementation project.



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List of Abbreviations

BOO	Build Own Operate
BOT	Build Operate Transfer
BT	Build Transfer
BTO	Build Transfer Operate
BOOT	Build Own Operate Transfer
CIO	Chief Information Systems Officer
CSR	Corporate Social Responsibility
DA	Democratic Alliance
DB	Design and Build
DBF	Design Build Finance
DBO	Design Build Operate
DBFO	Design Build Finance Operate
DCMF	Design Construct Manage and Finance
DFB	Design Finance Build
DFO	Design Finance Operate
DFBOT	Design Finance Build Operate Transfer
DOL	Department of Labour
CSFs	Critical Success Factors
EC	European Commission
ERP	Enterprise Resource Planning
EU	European Union
FMS	Financial Management System
GAO	Government Accountability Office
GEAR	Growth Empowerment and Redistribution Programme
ICD	Integrated Client Database
ICM	Integrated Computer Management



ICT	Information and Communication Technology
IES	Inspection and Enforcement system
IFP	Inkatha Freedom Party
IMF	International Monetary Fund
IPA	Interpretive Phenomenological Analysis
IS	Information Systems
ITP	Information Technology Plan
JV	Joint Venture
KPIs	Key Performance Indicators
LRA	Labour Relations Act
MIS	Management Information Systems
NPM	New Public Management
NT	National Treasury
OECD	Organisation for Economic Co-operation and Development
OCF	Office of the Compensation
PFMA	Public Finance Management Act
PFI	Project Finance Initiative
PFP	Project Finance Project
PPP	Public Private Partnership
SAP	Systems Applications and Products
SIS	Siemens
SITA	State IT Agency
TCA	Theory of Communicative Action
TR	Treasury Regulation
UK	United Kingdom
UN	United Nations
UIF	Unemployment Insurance Fund
USA	United States of America



Glossary of terms

Accountability: This is the capability of the public to hold accountable those responsible for managing the use of public funds in the delivery of services.

Bidder: A bidder is one who submits a bid in response to a project brief or to express interest in a potential contract.

Build, own, and operate (BOO): This is when the consultant is responsible for the design, construction, funding, operate and maintain the facility, during the contract period, with no provision for transfer of ownership to the government.

Build, own, operate, and transfer (BOOT): This is an arrangement whereby an organisation contracts a consulting company to design, finance, operate and transfer a project. The consulting company retains ownership until the end of the consulting period, after which ownership and operating rights are transferred back to the government.

Built, operate, transfer (BOT): This is an agreement where a consulting company designs, operates and transfers a project back to the agent on time stipulated in a contract. Thereafter ownership of the project may or may not be the consulting organisation's responsibility.

Business case: The business case is a full indication of the partnership requirements. The project is fully scoped during this process; risks implications and cost-benefit analysis is drawn up to test the net benefit of the proposal.

Conventional procurement: This is a public procurement approach in which the public sector secures the finance directly and pays the consultants as work progresses.

Core activities: These consist of operational components that require key decision making on delivery of service, which may remain, with government.

Design, build, and finance (DBF): A PPP that involves the procurement of an asset using private finance, without private sector processes and provision of the related services.

Design, build, finance and operate (DBFO): This is the main form of contract in the PFI, whereby the service provider is responsible for the design, construction, financing and operation of an asset.

Design, build, and operate (DBO): A Public Private Partnership (PPP) in which the public sector provides finance for a capital investment project, but the providers of the project retain the design and construction, and deliver some or all of the operational elements.

Joint Venture (JV): This is a distinct legal form of PPP arrangement, involving public and private bodies, assuming some form of equity stake in a PPP.

Key Performance Indicators (KPIs): These are measures developed under a performance management regime, to indicate how well specified performance targets are being realised.



Private Finance Initiative (PFI): A British programme encompassing arrangements whereby a consortium of private sector partners come together to provide an asset-based public service under contract to a public body.

Private Partner: This is a private sector entity, which is contracted by the government to assist with contractual work the public sector.

Procurement: This is a process for obtaining services from a provider once a decision has been taken to engage in a transaction, which involves negotiation of contracts to secure products.

Project brief: The project brief details government's objectives, service delivery requirements, policy and commercial matters, material background information and the process for lodging and evaluating submissions.

Public interest test: This is the assessment of the project on efficiency measures, accountability and transparency, which have an impact on individuals, equity, consumer rights, the public, security and privacy.

Public Private Partnership (PPP): This indicates a relationship based on a shared objective between the public and private sector, to deliver on a project for mutual gain.

Public sector: This is an enterprise that is financed, owned and controlled by government.

Risk allocation: This involves managing penalties related to risk, or agreeing to deal with the risk through a specified mechanism, which may involve sharing the risk.

Value-for-money: This means optimising benefits, costs, risks, meeting time lines and objectives, in order to meet public requirements.

Whole-of-life cycle: These are costs associated with the recurring maintenance or Information systems implementation process of economic life.



CHAPTER 1: Research Problem, Context and Approach

1.1 Introduction

This PhD research project is concerned with investigating barriers hindering the success of Information and Communication Technology (ICT) service delivery through Private-Public Partnership (PPP) initiatives in South Africa. While PPPs have become the latest procurement phenomenon in South Africa's public management, they have been in use in developed economies of Europe, North America and in Australia for decades (Linder, 1999). PPPs are viewed as special purpose vehicles for introducing the private sector into public service departments such as labour, hospitals, prisons and education, to deliver advanced technologies and to achieve efficiency (HM Treasury, 2012). PPP contract management stipulates the rules for managing PPP projects. PPP IT implementation projects are not governed by ordinary contract management processes but by specific government policies for contracting out to the private sector (Domberger & Jensen, 1986). Due to resource constraints, governments have difficulty upgrading and replacing legacy ICT systems. Consequently, the South African government made a decision to engage the assistance of the private sector in upgrading or replacing legacy Information Technology through PPP type collaborative partnerships. The new thinking is that conventional methods of service delivery need to make way for more innovative ways to overcome government resource constraints, thus PPPs are viewed as a viable procurement option, which was enacted by Treasury Regulation No.16 of 2004 (Treasury, 2004); (Fourie & Burger, 2000).

Since 1999, the government of South Africa has executed more than 22 PPP initiatives under Treasury Regulation 16 with varying degrees of success (Refer to Appendix 7) for the list of projects. The initiatives may be categorised into five different groups: Transport and Road, Health, Tourism, Information systems and other. Most of these initiatives were delivered but did not comply with the contract deadline, resulting in cost overruns, problems in the retention of expert resources and performance monitoring issues. Van der Merwe, (2011) states that PPP contract failures are due to management incompetence, information systems capacity, relationship breakdowns and lack of termination support, resulting in



contracts being renegotiated. The South African media has labelled PPP initiatives for Information Systems (IS) service delivery the biggest failures due to the lack of expert resources and management incompetence issues, resulting in cost overruns to the tune of R800 million (Ndenze, 2013). The only other PPP initiative that received positive feedback was the Gautrain, which was a major success. According to Van der Merwe (2011), the reason for the success of this PPP contract was that the contract was structured to ensure that the government and the concessionaire, Bombela Concession Company, operated within strict financial and time parameters.

Research conducted to date has focused on regulatory frameworks for PPPs, and the challenges of identifying international best practices. Fombad (2013) indicates that institutional bottlenecks have created loopholes in PPP contracts, challenging international best practice for accountability of the successful delivery of PPP projects; however, the contractual challenges that lead to PPP failures are not well understood. It has been established that PPP relationships are '*incomplete contracts*', characterised by potentially conflicting interests, and loss of control to the public sector which transfers power to the private partner (Esteve, Ysa & Longo, 2012).

This research is relevant not only to the South African public sector but to public sectors in other African countries, as well as to Europe and North America that use PPPs for contracting with private organisations for IS implementation. The rationale for PPP contracting is the need for technical expertise by the public sector and the perceived efficiency of the private sector in providing such (Fourie & Burger, 2000). The type of ICT to be investigated in this study are Enterprise Resource Planning (ERP) systems, which are defined as systems that effectively integrate all functional business areas such as operations, accounting and customer relationship management with IT tools. According to Esteves and Pastor-Collado (2001), ERP implementations are packages that provide integrated solutions for all business functions to enable the organisations to operate more efficiently and effectively, utilising their resources. Research in this area is becoming increasingly relevant for both theoretical and practical use in the area of ICT service delivery for IS upgrades in



the public sector. Many public sector businesses want to replace legacy IS due to global competition, but IS implementations, specifically ERP systems, e.g., Systems Applications and Products (SAP) amongst others, are expensive and have many risks (Shih, 2006:407).

1.2 What are Public Private Partnerships?

Linder (1999) and Hodge and Greve (2005) loosely define PPP initiatives as cooperative institutional arrangements between the public and private sector for the efficient realisation of some project. In 1992, PPPs were proposed as an instrument of the New Public Management movement initiated by the government of The United Kingdom (UK). The PPP policy was aimed at creating Private Finance Initiatives (PFI) to encourage private participation in infrastructure development and social service delivery, in order to bring competitiveness to public sector monopolies (Burchell, 2000). More recently, researchers have viewed PPPs as institutional arrangements for achieving public value initiatives for which governments lack expertise (Naik, Basavarajappa, Sultana & Prasanna, 2010); (Liu, Yu & Cheah, 2014); Reynaers & De Graaf, 2014). In the ensuing years, many developed and emerging economies adopted PPP policies by setting up PPP units, such as in South Africa. Currently these partnerships between the public sector and the private sector are accepted alternatives to the traditional state provision of public services. Arguably, this joint working approach allows the public and private sector to combine resources and expertise for the purpose of achieving a common outcome, which previously could not be reached by one party alone (Akintoye, Beck & Hardcastle, 2003). However, the application of PPP is not easy and straightforward.

While PPPs have had some successful performance outcomes, there have been some spectacular failures that have led some researchers to express caution in their adoption (Ameyaw & Chan, 2015; Zitron, 2006). According to the World Bank, (2003), the cancellation and renegotiation of PPP contracts for ICT service delivery worldwide have made headlines and, for various reasons, the renegotiation of projects has not been an unusual occurrence. The World Bank state that the reasons for cancellation of PPP projects include: 1) the private sector ceased to provide services to public sector users or failed to



provide licence agreements for software usage; 2) the private sector transferred economic interest of the project back to the public sector before the end of the project life; 3) the private sector physically abandoned the project and threatened legal action.

According to the World Bank (2003), there are two basic criteria for PPP project success: contract completion and value for money. However, there are a multitude of issues that must be considered by governments to ensure the success of PPP contracts for ICT service delivery.

1.3 Study Goal and Objectives

The goal of this PhD study is to conduct a systematic inquiry into organisational competence for PPP contracting for ICT services in the Republic of South Africa from the following perspectives (See Figure 1 and

Table 1): a) the policy framework, institutional management and governance structures; and b) Managerial competence for PPP project implementation. It is important to note here that PPP contracts stipulate the rules for managing PPP projects. As Domberger and Jensen (1986) have pointed out, the management of PPP IT implementation projects is not governed by ordinary contract management approaches but by specifically designed government policies. This research intends to develop an understanding of factors contributing to the failure of the South African Department of Labour PPP project for the implementation on an ERP system with a view to improving outcomes for future initiatives. The research incorporates an Agency Theory perspective to interrogate the failure of PPP contract for ICT service delivery in South Africa, by specifically investigating:

- 1a. How Government Policy defined risks and risk mitigation strategies for ICT service delivery through the use of PPP?
- 1b. what prescriptions for managing risks are defined in the PPP policy and contracts for ICT service delivery?
2. What governance structures exist for managing PPP ICT projects in South Africa?
3. What is the nature of public accountability for PPP contracting in South Africa?



The identification of risk factors is of special interest to this research because it challenges the successful execution of PPP IS initiatives. The identification of these risk factors will assist with the development of management competencies needed to effectively monitor, coordinate and control PPP IS projects. The empirical situation is a case study concerning the failure of the PPP initiative for ICT service delivery undertaken by the Department of Labour (DOL), the ‘public sector actor’ and Siemens (SIS), a private sector service provider from 2002 until 2012. The objective of the PPP initiative was the implementation of an ERP system in the DOL with the objectives of: (1) improving operational efficiencies in the public sector and (2) developing and retaining technological expertise in the area of ERP infrastructure. It was claimed that the PPP initiative was necessary because of technology constraints the government faced in providing efficient service delivery, and the lack of in-house technological skills to upgrade or replace legacy IT systems. The conventional methods of service delivery needed to make way for more innovative ways to solve government problems and consequently, the adoption of PPPs has a viable procurement option for delivery of successful ICT services in South Africa (Pretorius & Schurink, 2007).

Table 1: The Problem Domain of the DOL ERP Implementation Project, Source: The Researcher

Technical	Frameworks for contract design and work specification	Information architecture specification Application configuration and management
	Routines and Mechanisms for risk and performance, and risk and performance management; PPP Relationship Management [2]	User interaction authorisation configuration and management Workflow configuration and management [3]
Competence	Institutional regulations, organizational policies, conditions and knowledge	Business process information requirements specification
Domain	Competences for PPP contracting, project implementation, management and public accountability [1]	Information security requirements specification Workflow specification and design User interface specification [4]
	Organisational	Technological

Dimensions of IS/ERP Implementation Problem



1.4 The Nomological Net and Empirical Studies

The nomological net for this research (Refer to Figure 1) illustrates the conceptual structure of the PPP’s institutional context and defines the key components relevant to the inquiry as: Regulatory Body; 1) Institutional Framework, 2) PPP Project Governance, and 3) PPP Public Accountability.

As Cronbach and Meehl (1955) argue, the nomological net is an important aspect of empirical research programme, which makes explicit the core areas of interest to the research and enables the researcher to contextualise and corroborate the investigation within relevant literature. The nomological net also provides a clear structure of the integration of the empirical studies in a multi-study research programme.

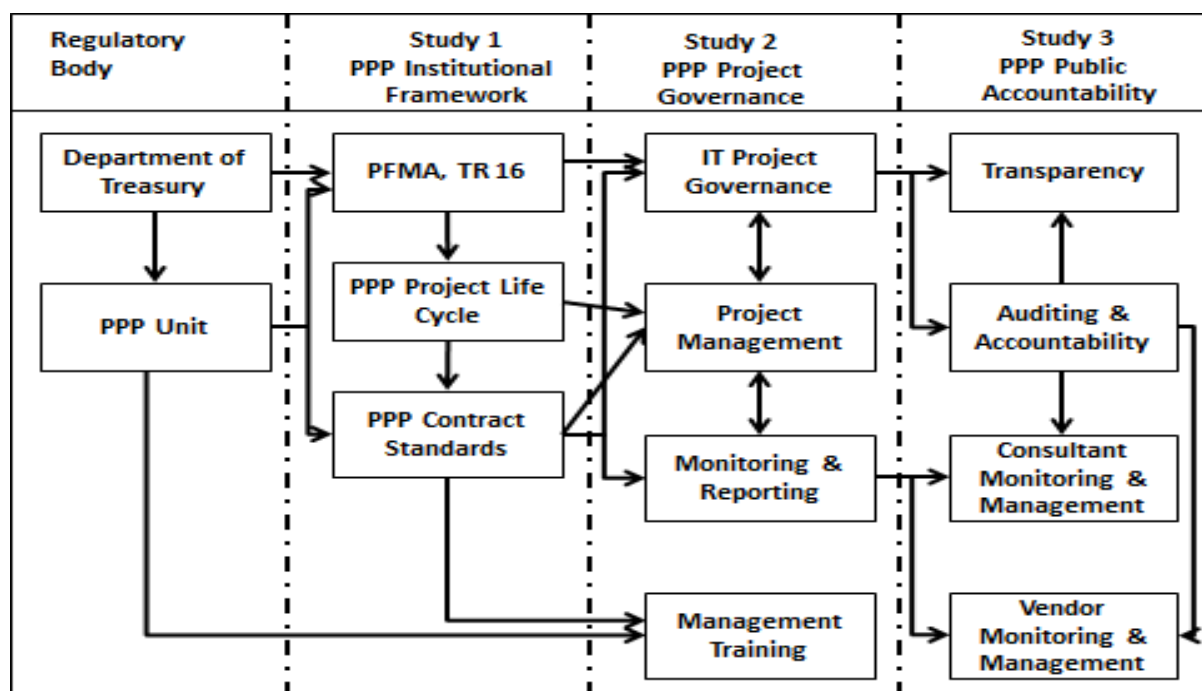


Figure 1: Nomological net and research programme, Source: The Researcher

The four components of the nomological net illustrated in

Table 1 are essential not only for developing an understanding of the failure of the PPP initiative, but in identifying structural conditions in the empirical situation and interactions



that may have influenced the failure of the PPP initiative. Below is a brief discussion of aspects of the nomological net, their relationships and the mapping of the three empirical studies to key areas in the network.

The PPP regulatory body in South Africa consists of the National Treasury Department and a dedicated PPP Unit, which was created to establish as central information and proficiency centre. The role of the PPP unit is:

- (1) to ensure that PPP agreements comply with the legal requirements of affordability, value for money and risk sharing, and
- (2) to guide the public sector organisations in accordance with international best practice for PPP execution and to guarantee successful outcomes (Fourie & Burger, 2000; Grimsey & Lewis, 2005).

A key responsibility of the PPP unit is to provide individual government departments, such as the Department of Labour, with technical assistance during the development of PPP contracts. They are also mandated to perform specific public accountability tasks, such as control of the government departments to ensure their compliance with the institutional and regulatory framework that was endorsed in December 1999 for the execution of PPP contracts. In April 2000, the National Treasury (the regulatory body) issued a set of institutional regulations (the institutional framework) for the governance of PPPs. This institutional framework for PPPs comprises a set of legislations for regulating PPPs on national, provincial and municipal levels. PPPs at the national and provincial levels are regulated by Treasury Regulation No.16 of 2004 (Treasury, 2004), and the Public Finance Management Act (PFMA), Act no.1 as amended by Act 29 of 1999 (Treasury, 2004). PPPs at the municipal level are regulated by the Municipal Systems Act No.32 of 2000 and the Municipal Finance Management Act No.56 of 2003 (Treasury, 2004). In addition, all PPP projects are subject to section 217(1) of the Constitution Act no. 108, of 1996 that stipulates the requirement for transparency and public accountability (Treasury, 2004).



The focus of Study 1 is an interrogation of relevant aspects of the institutional framework to develop an understanding of how it addresses risk identification, risk mitigation and management in PPP contracting for ICT service delivery at the national government level. According to Fombad (2013), even though South Africa has a robust legislative framework, institutional bottlenecks exist and there are noticeable loopholes due to the lengthy and drawn-out procurement process that must be followed. It is believed that this has created risks and precipitated conflicts and disputes between public and private sector partners. Risk mitigation strategies are crucial to PPP contract management to avoid penalties and cost overruns during the ICT service delivery life cycle (Akintoye, Beck & Hardcastle, 2003). A lack of risk management may give flexibility to consultants to renege on contractual obligations, resulting in failure and cost overruns. Risk management is a critical issue for successful PPP contract management (Grimsey & Lewis, 2002); as such, an empirical investigation of the conditions of risk management was essential to understanding factors influencing the DOL project failure. The empirical material used for Study 1 was the Legislations Policy guidelines for PPP contracting and the Service Level agreement between the DOL and SIS, and an agency theoretic framework was used to analyse the empirical materials to expose risks factors, risk mitigation and management strategies specified in them.

Empirical Study 2 focuses on developing an understanding of the governance practices affecting the PPP contracting for ICT service delivery. Project governance is a critical issue as PPP contracting for ICT service delivery has been identified as a failure (Johnston & Gudergan, 2007). In response, scholars posit that governance principles and norms should be incorporated in the operationalisation and designated objectives of PPPs (Fombad, 2013; Brinkerhoff & Brinkerhoff, 2011). This study uses a key informant interview strategy, in which key stakeholders in the DOL project were identified and interviewed about project governance and management practices. At the national level in South Africa, PPP project governance practices are subject to section 217(1) of the constitution Act no. 108 of 1996 (Treasury, 2004) which stipulates: *“When an organ of state in the national, provincial or local sphere of government or other institution identifies national legislation contracts for*



goods or services, it must be in accordance with a system that is fair, equitable, transparent and cost effective". This empirical study focused on understanding the extent to which the stakeholders of the DOL ICT service delivery project understood and enacted the provisions. In addition to the interviews with key internal and external stakeholders, minutes of PPP project meetings were also used in the empirical analysis.

Empirical Study 3 investigates the media discourse on the failure of the DOL project with specific focus on public accountability. This study uses a critical discourse analysis methodology to interrogate the validity claims of truth, sincerity, legitimacy and comprehensibility in the media discourse, and to draw conclusions on the state of public accountability of the PPP project. There are two important reasons for this empirical study:

- 1) Section 217(1) of the constitution stipulates public accountability for public funds, and stipulates a role for media in holding the government accountable.
- 2) The media played a central role in bringing to the public awareness the challenges the government was facing with the private partner on the DOL project, and facilitated a wider public discourse on the issues of public accountability.

As Flinders (2005) state that accountability is vital to a well-functioning liberal democracy, because it keeps the power of government checked and the public informed. In this study the media's view is critical in terms of accountability issues that arose due to the self-seeking motives of the private partner (consultants) acting against the interest of the public sector.



Table 2: Research Questions and Purpose. Source: The Researcher

Study	Research Question	Study Focus	Research Method	Research Strategy
Study 1	What are the factors contributing to PPP contract failures for ICT service delivery in RSA?	An interrogation of the PPP Institutional Framework, PPP Policy documents, PPP Management prescriptions to develop risk identification and risk management strategies	Content analysis	Deductive
Study 2	What governance structures exist for managing PPP contracts for ICT service delivery in RSA?	An interrogation into the management practices of the DOL project using interviews with key informants and PPP project meeting minutes	Content analysis	Deductive
Study 3	What is the nature of public accountability for PPP contracts in ICT service delivery?	Interrogation of the public discourse on the DOL project using media documents	Critical Discourse analysis	Deductive

Further, this is important in unearthing conditions influencing the DOL project, such as moral hazard and adverse selection. It has been proven that PPP contracts for ICT service deliveries on a global scale are plagued with adverse selection, due to nepotism, problems with corruption, and allocation and lack of management competence, which can lead to failure (Transparency international and Cambridge University, 2007). Nevertheless, as (Johnston & Gudergan, 2007) argue, there is dearth of empirical research interrogating how PPP initiatives for ICT service delivery are structured and managed and how government activities in PPP are publicly accounted for in Table 2 summarises the empirical questions related to each study, the research method to be used and the research strategy involved.

1.5 Theoretical Framework

The theoretical framework for this research is agency theory (Eisenhardt, 1989, Demski & Feltham 1978). The principal-agent framework (See Figure 2, below) is appropriate for this research inquiry to conceptualise the government as the principal representative for the general public that engages various consultants in PPP initiatives (Laffont & Tirole, 1993, Martimort & Pouyet, 2008).

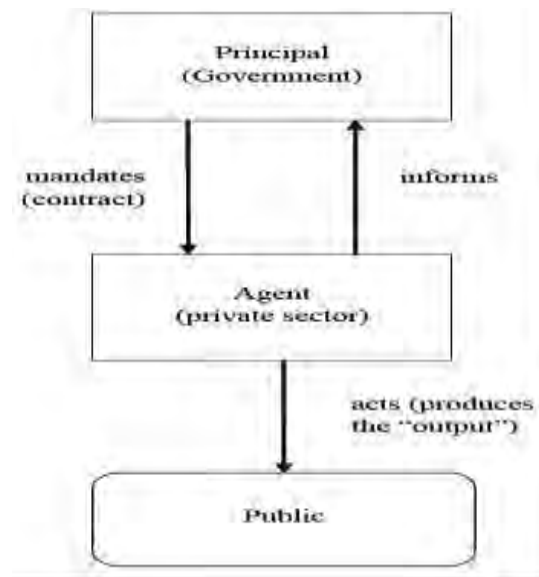


Figure 2: Principal Agent Framework, Source: de Palma, Leruth & Prunier (2009:13)

It has been used by some IS researchers to investigate specific aspects of IS implementation. For example, Mahaney and Lederer, (2003) used agency theory to examine compensation schemes for IS project managers in an attempt to understand project managers behaviours, and to develop an understanding of the impact of project managers behaviour on project success (Mahaney & Lederer, 2010). A small number of researchers have used the theory to investigate IS outsourcing in the private sector (Tiwana & Bush, 2007; Bahli & Rivard, 2003; Hancox & Hackney, 2000), and a few have used it to interrogate risks in IS outsourcing contracts (Ngwenyama & Sullivan, 2005; 2007). However, there are no existing studies, which have applied it to PPPs for ICT services.

Agency theory was originally developed and applied in the context of private firms to explore the economic relationship between the managers (principal) and an employee (agent). However, according to Eisenhardt (1989), any situation in which “the principal delegates work to the agent, who then performs the work” can be characterised by agency theory. Figure 2 illustrates the key characteristics of the principal-agent relationship. In the principal-agent relationship, there are two problems of concern: The goals of the principal and the agent are often inconsistent with one another (‘goal incongruence’), and the



principal cannot professionally and robustly manage expenditure and the financial implication that impact the actions and the information of the agent ('information symmetries') (de Palma, Leruth & Prunier, 2009). The principal and the agent can have many sources in which case the principal tries to control the agent in such a way as to maximise his own profits (Jensen & Meckling, 1976). "A second important assumption of agency theory is information asymmetry, where the principal is at the mercy of the more knowledgeable agent, which induces adverse selection during 'ex ante' contracting and moral hazard during the 'ex post' contracting period" (Jensen, 2003). Despite the primal use of agency theory in the private sector, it can be applied as the interface between the public and private sector when the public sector (principal) contracts the private sector (agent) to delegate responsibility in public service delivery (HM Treasury, 2012). Demski and Feltham (1978) indicate that empirical research using the agency theory framework can help to understand:

1. the agent's behaviour, and
2. contractual and structural conditions influencing the agent's behaviour such as opportunistic bargaining, shirking and the transference of risk.

Others have argued that the framework can also help researchers interrogate institutional mechanisms and management regimes of PPP initiatives and assist in structuring appropriate government policy (Burger, 2006; Marques & Berg, 2010; Gottlieb & Moreira, 2013; Rui, 2008; Transparency international and Cambridge University, 2007). Agency theory in combination with the transaction cost approach has been investigated by Ferris and Graddy (1998), to assist with problems relating to refining public sector performance.

1.6 Research Methodology

While the research falls within a single paradigm, the interpretive paradigm, a multi methods approach is used (content analysis and critical discourse analysis) to interrogate the failure of the Department of Labour's (DOL) and Siemens (SIS) PPP contract for ICT service delivery. This PPP contract is concerned with the implementation of a fully



integrated ERP system at the DOL. The interpretive paradigm views human systems as socially constructed and approach the reproduction of knowledge about human interactions with the technologies from the perspective of the participants in relation to and within the social context of their activities ((Orlikowski & Baroudi, 1991).

The interpretive approach offers the prospect of exploring different meaning held by dissimilar human subjects, enabling the study of the phenomena (Ngwenyama & Lee, 1997). The principle method of knowledge reproduction within the interpretive paradigm is a qualitative enquiry (Klein & Myers, 1999). As a result, a qualitative method was adopted for this research, as it provided an effective strategy for probing phenomena of importance in a naturally occurring environment (Kaplan & Maxwell, 2005; Silverman, 1998).

The underlying principle of interpretive research is hermeneutic analysis, which enables the researcher to make sense of the social context of the empirical situation and the relationship amongst the public and private sector (Klein & Myers, 1999). The social context of this research is the institutional arrangements of PPPs for ICT service delivery in South Africa. The empirical situation is the ICT service delivery project between the partners, SIS and DOL. This research is interested in a non-deterministic account of the PPP contract for ICT service delivery failure; it approaches the investigation through the lens of agency theory, taking account of the specific social and cultural context.



1.7 Structure of thesis

The remainder of the thesis will be structured as indicated below.

Chapter 2: Literature Review – Presents an overview of research related to Public Private Partnerships (PPP), PPP legislative guidelines, and critical success factors for information systems (IS) implementation projects.

Chapter 3: Theoretical Framework Agency Theory - Presents a detailed overview of agency theory and its appropriateness to this research on PPP failures.

Chapter 4: Research Methodology - Contextualises the empirical research questions presents a description of the research context and an overview discussion of the interpretive paradigm followed in this research. The researcher then describes the multi-method approach adopted for the research, which combines content analysis and critical discourse analysis.

Chapter 5: Study 1 - Reports on the interrogation into the first empirical research questions, 1a) How Government policy defined risks and risk mitigation strategies for ICT service delivery through the use of PPP; 1b) what prescriptions for managing risks are defined in the PPP policy and contracts for ICT service delivery. This study uses an agency theory framework to interrogate risk factors and risk mitigation strategies of the PPP contract for ICT/IS service delivery. The study utilises qualitative content analysis and derives propositions from the empirical observations, and suggests contributions, limitations and future research directions.

Chapter 6: Study 2 – Reports on the interrogation into the second empirical research question, looking at what governance structures exist for managing PPP ICT projects in South Africa. This study takes a qualitative approach using hermeneutic content analysis to analyse and interpret data collected from key informants' interviews and project meeting minutes.



Chapter 7: Study 3 – Reports on the interrogation into the third empirical research question, what is the nature of public accountability for PPP contracting in South Africa. This study uses a Critical Discourse Analysis research strategy to investigate the public discourse on accountability affecting PPP initiatives for ICT service delivery in the South African public sector.

Chapter 8: Theoretical elaboration, reflection and conclusions – Presents a detailed discussion of the empirical findings of the three studies and provides an integrative theoretical explanation of the conditions influencing the failure of the DOL/ PPP initiative, along with recommendations for improving PPP management practice in South Africa and the wider context of developing countries.



CHAPTER 2: Literature Review and Context

2.1 Introduction to the literature review

While there is a large body of literature on IS/ICT implementation, there is a dearth of literature on ICT/IS implementation in the public sector. A search on google scholar yielded 101 items (Scholar Google, 2015: July) of which the majority focuses broadly on e-government, with a very small number focusing on emerging economies. The topic ‘PPP contracts for ICT service delivery’ has specifically garnered limited attention from researchers, as noted by Cordella & Iannacci (2010) and McIvor, McCracken & McHugh, (2011). A close examination of the literature reveals very few items (ten) dealing with emerging economies, a finding lamented by several researchers (Ciborra, 2005; Sharma, 2012). Even though the World Bank and the International Monetary Fund (IMF) have been pushing PPPs for ICT service delivery in developing countries, research on IS/ERP implementation in the public sector in these countries has been largely ignored (Ciborra, 2005; Hanna, 2003; Leye, 2007; Sharma, 2012; Barca & Cordella, 2006; Cordella, 2007). Further, there is hardly any literature that is concerned with PPP contracting for ICT service delivery in the context of emerging and developing economies (Jamali, 2004; Sharma, 2012). The researcher’s analysis of relevant publications in the IS/ERP implementation and public management literatures more broadly focuses respectively on: a) identifying the impacts of IS/ERP failures in the public sector, and b) on lack of management competence and underperformance of government organisations with regard to ICT. In general, the literature is lacking in critical analysis of PPP implementation management failures in ICT services, and prescriptions for improving management practice.

The rest of the chapter provides an analysis of the literature relevant to the research on management failures in PPP contracting for ICT service delivery in the context of an emerging economy. Section 2.2 presents an overview of public sector ICT implementations. Section 2.3 sets out ERP implementations, management and critical success factors. Section 2.4 provides a general overview of Public Private Partnerships. Section 2.5 provides an



overview of the different Public Private Partnership structures. Section 2.6 discusses management challenges of PPPs, taking into account public value and returns on investment, risk sharing and risk management, governance and public accountability. Section 2.7 provides the conclusion of the literature review.

2.2 Public sector ICT implementation

In the last decade ICT infrastructure expansion has had considerable impact on the way local and national governments function (Gupta, Dasgupta & Gupta, 2008). ICT refers to technologies such as the Internet, Intranets, Extranets, ERP and other such technologies, which serve as basic infrastructure for a variety of services and service improvements facilitating effective and efficient public management. Many researchers view ICT infrastructure as a catalyst for expanding public sector resources and management competencies as well as improving service delivery (Andersen, 1999; Andersen, Henriksen, Medaglia, Danziger, Sannarnes & Enemærke, 2010; Chadwick & May, 2003; Dunleavy, Margetts, Bastow & Tinkler, 2006). In developed countries governments have adopted approaches to ICT service delivery in the public sector since the late 1990s (Cordella & Bonina, 2012). Jaeger (2005) and Cordella & Bonina, (2012) argue that these governments have implemented ICT systems such as e-mail, public deliberation on the Internet and e-voting to enhance citizen involvement and equality. The implementation of ICTs in the public sector can be viewed as tools to build trust, and to improve accountability, transparency and governance (Avgerou, Ciborra, Cordella, Kallinikos & Smith, 2005). While emerging and developing economies stand to gain by introducing these technologies to improve public services, they often lack the competences to develop, implement and manage such system (Gupta, Dasgupta & Gupta, 2008). In developing countries lack of ICT skills has increased the vulnerability of public sector and has prompted governments to consider various strategies for developing the capacity to deploy and manage ICT systems, but there are still many constraints hindering rapid progress Akintoye, Beck & Hardcastle, 2003; Ndou, 2004; Mutula & Van Brakel, 2007; Ngwenyama & Morawczynski, 2009; Walsham, 2012).



Another catalyst for public investment in ICT infrastructure in government and public organisations was the belief that such investments would improve operating efficiencies and bring down the cost of government (Bellamy & Taylor, 1996; 1998; Fountain, 2001a, 2001b; Gil-Garcia & Pardo, 2005; Gronlund & Horan, 2004; Heeks, 1999; Kamarck, 2007). In countries around the globe, investment in public sector information systems was motivated by New Public Management (NPM) which suggests various ideas and practices that recommended adopting the private sector business approaches in the public sector (Hood, 1991). There have been many interpretations of what the NPM represents; however the general agreement is to restructure management roles; to transform the public sector into self-sufficient organisations; to provide performance-based accountability, particularly through contracts; and to use competitive instruments such as outsourced contracts (Dunleavy, Margetts, Bastow & Tinkler, 2006; Economic Commission for Africa, 2004). The NPM's stance is ultimately that historic public sector philosophy and business practices need to change.

The push to adopt new ICTs has led to a high rate of failure costing developing countries large sums of money that could have been allocated to other needs (Heeks, 2002; Thompson, 2008; Bollou & Ngwenyama, 2008; Dada, 2006; Dwivedi, Wastell & Henriksen, 2015). ICT success or failure in developing countries can be categorised into three, depending on the degree of success (Heeks, 2002).

1. Firstly, the complete failure of an ICT implementation which was abandoned without consideration leaving the organisation with no IS platform, leaving no choice but to bring consultants on board for the sake of business continuity;
2. Secondly the partial failure of an ICT implementation, in which objects was not met or in which the outcomes were a disaster and contracts needed to be renegotiated. Related to partial failure is a tolerated failure where ICT implementations get off the ground but has to be abandoned after a year due to functionality challenges (Heeks, 2002).



3. Thirdly the success of an ICT implementation where the public and private sector meet their objectives but the challenge exists for the public sector to take full control when the private sector has fulfilled its obligation. The lack of skilled IS professionals to manage ICT implementations, specifically ERP, is a challenge in the private sector but poses a much bigger problem for the public sector.

2.3 Public sector ERP implementation and critical success factors

Although deployment of Enterprise Resource Planning (ERP) systems originated in the private sector, public sector organisations, driven largely by efficiency concerns, are increasingly adopting ERP to replace existing control and operational systems. ERP epitomises a process-oriented view of organisational activities and is considered as a strategic infrastructure for achieving efficiency and effectiveness in modern organisations (Buck-Emden & Galimow, 1996). ERP systems were first widely adopted by the private sector, but in recent years this ICT infrastructure has been growing in use by public sector organisations. However, the implementation and use of ERP systems by the public sector has encountered many challenges, hence there is a need to identify successful management strategies to overcome the obstacles (Alves & Matos, 2011; Sommer, 2011; Tarabanis, Peristeras & Fis, 2001; Vann, 2004). In the context of the public sector, ERP offers a unique set of challenges of integration into embedded government structures. There are several challenges which public organisations face when trying to implement ERP systems:

1. mismatch of culture, norms and values between ERP systems and government organisations (Allen, Kern & Havenhand, 2002; Allen & Kern, 2001; Bannister, 2001; Vann, 2004);
2. technological competence of most government organisations are built around legacy systems and are not transferrable to ERP systems (Alves & Matos, 2011; Gullede & Simon, 2005; Wagner & Antonucci, 2009; Shah, Khan, Bokhari & Raza, 2011);



3. ERP systems require very large financial investments while most government organisations are challenged by citizens to be fiscally frugal (Ebrahim & Irani, 2005; Sommer, 2011; Vaidya, Sajeev & Callender, 2006).

In response to the challenges of implementing ERP systems, a line of research has emerged inquiring into factors, which contribute to implementation success. This line of research, known as critical success factors (CSFs), has a significant literature. However, most of it focuses on ERP implementation in private enterprises which face quite different conditions from public sector organisations (Choi & Chang, 2009; Shirouyehzad, Dabestani & Badakhshian, 2011; Shah, Khan, Bokhari & Raza, 2011; Vaidya, Sajeev & Callender, 2006), and ignore the challenges faced by organisations in developing and emerging economies (Al-Mashari, Ghani & Al-Rashid, 2006; Huang & Palvia, 2001; Hawari & Heeks, 2010; Nfuka & Rusu, 2010; Soja & Cunha, 2015). Nevertheless, IS researchers (Bhatti, 2005; Leyh & Sander, 2015; Al-Mashari, 2002; Al-Mashari, Ghani & Al-Rashid, 2006; Kumar & Hillegersberg, 2000; Somers & Nelson, 2004), have proposed sets of CSFs as necessary and sufficient conditions for ERP implementation success, namely:

1. top management support,
2. project management competence,
3. risk management competence,
4. change management competence,
5. process re-engineering, and
6. user training.

However, as researchers investigating ERP implementation in developing countries have pointed out, the CSFs that have been proposed for developed countries are inadequate for the conditions existing in developing countries (Huang & Palvia, 2001; Hawari & Heeks, 2010; Nfuka & Rusu, 2010). In addition to the issues faced by ERP implementation projects in developed countries, those in emerging and developing economies face significantly more human capital and resource challenges (Hawari & Heeks, 2010; Nfuka & Rusu, 2010). For



example, professional competence in new ICTs is often in short supply, forcing these countries to contract out the work at higher cost (Hawari & Heeks, 2010; Soja & Cunha, 2015; Soja & Paliwoda-Pękosz, 2015); and, secondly, the high cost of ERP software infrastructure is a barrier to implementation for some developing countries (Palanisamy, Verville & Taskin, 2015).

2.4 General overview of Public Private Partnerships

While there is no formal agreed-upon definition of public private partnerships (PPPs), what is agreed is that they are contractual relationships between private enterprises and government organisations for the delivery of services or products to the public sector (Linder, 1999; Kanev, 2009; Milosavljevic, 2009; Osborne, 2002). Many researchers view PPPs as instruments of the new public management philosophy aimed at disciplining government organisations into effective and efficient operations (Bovaird & Löffler, 2009; Linder, 1999; Pollitt & Bouckaert, 2004; Sarma, 2006). However, Hodge & Greve (2005) view PPPs as providing institutional arrangements for collaboration between governments and the private sector, which can result in positive social benefits. In the last three decades, PPPs have taken many forms and delivered many different services and products, from education and healthcare to transportation and ICT infrastructure in both developed and developing economies, but there have been many spectacular failures (Sharma, 2012; Weber & Alfen, 2010; Malone, 2005; Odeck & Bråthen, 2002; Ahwireng-Obeng & Mokgohlwa, 2002; Tati, 2005; Salamon, 1995).

In the current incarnation, the PPP has its roots in the new public management idea of reducing the role of government and increasing the role of private enterprises in society by attracting private funding for public projects via PFIs (Salamon, 1995; Savas & Savas, 2000; Van Ham & Koppenjan, 2001). Spectacular failures of the PFI approach, such as loss of government control and opportunistic behaviour (shirking, price gouging, etc.) by private enterprises, led to a rethinking of the structure of private participation in the public sphere and gave birth to the idea of PPPs as an instrument for collaboration and shared control of public projects (Grimsey & Lewis, 2002; Bovaird, 2004; Bloomfield, 2006; Chong, Huet,



Saussier & Steiner, 2006). PPPs as collaborations for delivering infrastructure or services are considered organisations for jointly building, owning and operating infrastructure and services, in which each partner's role and the objectives of the partnership are defined in a legal contract that specifies the joint rights and responsibilities (Pongsiri, 2002; Hart, 2003; Gasiorowski & Moszoro, 2008; Hodge & Greve, 2007). However, financial structure and ownership rights of PPPs can still vary between two extremes:

1. public ownership and operation of services or infrastructure, and
2. private ownership and operation of the services or infrastructure (Hart, 2003; Gasiorowski & Moszoro, 2008).

Between these two extremes there are many models of PPP some of which the researcher will outline in the next section.

Table 3: Public Private Partnership models, Source: The Researcher

Key Aspects	Private Own & Operate	Public Own & Operate
Financing	Largely private but still joint	51% public, 49% private
Management	Private	Joint public-private
Risk sharing	Joint	Joint
Financial Rewards	Largely private	Shared
Concession	Often more than 25 years	Vary with agreement

The PPP model of private ownership and operation of public services has been widely criticised as a neoliberal strategy for privileging private enterprise at the expense of citizens and society (Bovaird, 2004; Chong, et. al., 2006; Jessop, 1998; Parker & Hartley, 2003; Spackman, 2002; Vining & Boardman 2008; Langford & Roy, 2006; Johnston & Gudergan, 2007; Hodge, 2004). However, this model is continually pushed by international organisations such as International Monetary Fund (IMF) and the World Bank on governments in emerging and developing countries (Gasiorowski & Moszoro, 2008; McKee, Edwards & Atun, 2006; Estache & Serebrisky, 2004). The central argument of its proponents is that it is an optimal capital structure for emerging and developing economies with capital constraints (Gasiorowski & Moszoro, 2008; Estache & Serebrisky, 2004).



However, these countries are often weak in governance and lack bargaining power and the technical capacity to implement governance structures to effectively manage foreign private partners (Jessop, 1998; Jamali, 2004; Marin, 2009; Deva, 2006; Samii, Van Wassenhove & Bhattacharya, 2002; Abednego & Ogunlana, 2006). The PPP model of private ownership and operating has also had some spectacular failures and has been widely criticised in developed countries such as France (Bovaird, 2004; Chong, et. al., 2006), the United Kingdom (Jessop, 1998; Parker & Hartley, 2003; Spackman, 2002), Canada (Bradford, 2003; Vining & Boardman, 2008; Langford & Roy, 2006) and Australia (English, 2007; Johnston & Gudergan, 2007; Hodge, 2004). Consequently, public management researchers have come to view it as high risk (Jessop, 1998; English, 2007; Hodge, 2004; Wettenhall, 2003; Teisman & Klijn, 2002).

2.5 Different Public Private Partnership structures

Between the two extremes of private/public ownership and operation of the infrastructure or service resulting from the collaboration, there are multiple structures for PPPs based on the combinations of services, roles and responsibilities and different financing methods between the government and the private partner. Researchers point out that the most common structures are: (1) contracting out, (2) build and transfer (3) build, operate and transfer (4) build own and (5) operate.

- **Contracting out** is a form of PPP where the private partner is only partially responsible and provides a service in an advisory and consulting capacity to the public organisation without taking any risks. The objective of this form of PPP is to engage the private enterprise to use its specialised knowledge to assist the public sector managers with re-engineering government infrastructure to meet the demands for ICT service delivery for information systems implementations.
- In the **Build and Transfer (BT)** PPP model the private partner takes primary responsibility for funding (via loan arrangements), designing, building and managing the project. When the project is finalised it is transferred back to the public sector. An



example of this arrangement is the Third Dartford Crossing of the River Thames, linking two sections of the M25 motorway, which circles London, reverting to the UK government (Grimsey & Lewis, 2004:11). Another variant of this model is **Design and Build (DB)**, in which a single contract is provided to a private company, where the management of the contract requirements is the responsibility of the private company, but the public sector retains legal ownership (Hodge & Greve, 2005:65). The DBO model integrates design, construction and maintenance in one contract and is based on the traditional public sector procurement methods, where the public sector purchases the infrastructure thereafter.

- **Design Building Finance Operate (DBFO)** - This particular PPP model involves a long-term contract with a private partner of more than 25 years. It is a type of concession contract, which requires the private enterprise to invest in building and operating a service facility with service and performance standards clearly specified. At the end of the concession period the infrastructure is then taken over by the government. This is a mutual agreement between the public and private partner where the latter bears considerable risk. (Grimsey & Lewis, 2004:60).
- In the **Build Own Operate (BOO)** PPP model, the private enterprise is responsible for financing, building, operating and outright ownership of the infrastructure. The control and ownership of the project remains the property of the private sector. The water treatment plants in South Australia utilised this structure for contracting. The private sector ensured the process of raw water into filter water through a contract with the public sector utility that could deliver to the end user, the consumers (Grimsey & Lewis, 2004:11).

Each of these PPP models has its own unique challenges of governance and accountability, various levels of success in different jurisdictions and various proponents and detractors (Bradford, 2003; Hart, 2003; Oreck & Brat hen, 2002; Allard & Brabant, 2011; English, 2007; Johnston & Gudergan, 2007). However, all PPPs are relationship agreements, reflecting shared responsibilities and competing stakeholder interests (Mitchell, 2008;



Reeves, 2008; Iossa & Martimort, 2012; Parker & Hartley, 2003; Bloomfield, 2006). Three elements of these agreements are critical:

1. the specification of goals and objectives for the project
2. the specification of responsibilities for the outcomes and
3. specification of accountability mechanisms and strict penalties for underperformance.

Researchers have pointed out that PPPs are successful when there is tangible supervision, robust governance structures, transparency and accountability (Kernaghan, 1993; Mitchell, 2008; Bodha, 2003; Levin, Belfield, Muennig & Rouse, 2007; Ng & Loosemore, 2007; Iossa & Martimort, 2012).

2.6 Management challenges of Public Private Partnerships

PPPs face a range of management challenges that vary depending on their goals and the type of governance and organisational structure they assume. However, there are three critical areas of management challenges that are relevant to the success of all types of PPPs:

1. Achieving public value and return on government investments.
2. Risk Sharing and Risk Management, and
3. PPP governance and public accountability.

The effective management of these challenges is a necessary condition but not sufficient condition for the success of PPPs (Gil-García & Pardo, 2005; Zhang, 2005; Li, Akintoye, Edwards & Hardcastle, 2005; Jacobson & Ok Choi, 2008; Jefferies, 2006; Jamali, 2004; Yuan, Zeng, Skibniewski & Li, 2009; Ismail, 2013; Zou, Kumaraswamy, Chung & Wong, 2014; Mota & Moreira, 2015).

2.6.1 Public value and return on investment

A primary goal of PPPs is deemed to be that of obtaining higher public value for the investment of public funds than is deemed possible from the traditional public works approach (McKevitt, 2015; Grimsey & Lewis, 2005; Nisar, 2007). A central tenet of the new public management philosophy and the existence of PPPs is that they are more efficient



vehicles for achieving public capital projects than the conventional public works approach (Osborne, 2010; Leigland, 2006; Morillos & Amekudzi, 2008; McKevitt, 2015;). This has led to the idea of a Public Sector Comparator (PSC) measure which is applied to assess how well PPPs proposed a rating as an alternative to government projects in delivering value for money (Leigland, 2006; Heald, 2003). However, empirical research has illustrated that PPPs do not deliver any better returns on investment than traditional public works projects and, because of the involvement of private partners, PPP projects often take higher risks than is possible if government were the sole investor (Bruzelius, Flyvbjerg & Rothengatter, 2002; Estache, 2010; Flyvbjerg, 2009; Flyvbjerg, 2013). Further, Budzier & Flyvbjerg (2011) argue that ICT projects are much more susceptible to higher risks than other infrastructure projects. And, although the PSC method has come under criticism as a valid metric for assessing value for money due to its lack of accuracy, challenges on estimating discount rates and subjective manipulation by analysts in both developed and developing countries (including South Africa) still use it as a benchmark to evaluate value for money (Grimsey & Lewis, 2004; Flyvbjerg, 2009, 2013; McKevitt, 2015). The challenge then for managers of PPP projects is to deliver their projects in good time while delivering on value for money promises that may or may not be viable (Flyvbjerg, 2014; Grimsey & Lewis, 2005; Martins, Marques & Cruz, 2014; Tsukada, 2015)

2.6.2 Risk sharing and risk management

The allocation of risks is associated with rewards and is a fundamental feature of PPP success (Hart, 2003; Iossa & Martimort, 2012; Ng & Loosemore, 2007; Kociemska, 2010; Khadaroo, 2014). From the perspective of the new public management philosophy, risk sharing between the public and private partners is a key goal of PPPs (Abednego & Ogunlana, 2006; Teisman & Klijn, 2002; Iossa & Martimort, 2012). Proponents of the NPM philosophy argue that there is a role for risk sharing and that PPPs are designed to ensure that risk is allocated between the public and private sector to ensure reduction of cost overruns and value-positive outcomes for the citizens (Osborne, 2010; Bovaird & Löffler, 2009; Pollitt & Bouckaert, 2011; Valéro, 2015). However, empirical research suggests that this has not always been achieved (McKevitt, 2015; Bing, Akintoye, Edwards & Hardcastle,



2005). A 2007 European Services Strategy report illustrate this challenge with evidence from 102 PPP projects for ICT implementations which had serious cost overruns, delays and terminations, for which the citizens paid (Whitfield, 2007). A UK study which reviewed UK Treasury documents revealed similar evidence of massive cost overruns, delays and terminations of PPP projects which were eventually paid by the citizens (Pollock, Price & Player, 2007). The private sector often have superior technical knowledge of risk factors and are able to bargain and influence the design of PPP contracts to reduce their own risks, at the expense of the public (Bruzelius et al., 2002; Hodge, 2004; Love, Edwards & Irani, 2012; Flyvbjerg, 2014; Loosemore & Cheung, 2015).

A second major challenge in this area is managing the strategic behaviour of private partners during the project (De Bruijn & Ten Heuvelhof, 2010; Smyth & Edkins, 2007; Klijn & Teisman, 2005; El-Gohary, Osman & El-Diraby, 2006). While it is understood that the public sector organisation has the role of implementing project governance and managing the behaviour of the private partner to ensure positive value outcomes for the citizens, achieving these roles is a major challenge (Jones & Noble, 2008; Osborne, 2010; Jessop, 1998; Klijn & Teisman, 2005). The aim of private enterprise is profit at all costs, and this aim can lead to opportunistic behaviours such as shirking, renegotiation and under-performance when these behaviours are likely to improve profits for the private partner (Lohmann & Rötzel, 2014; Shaoul, 2005; Iossa & Martimort, 2015; Vining & Boardman, 2014). A key strategy for managing the strategic behaviour of the private partner is specifying performance criteria in the PPP contract and monitoring performance compliance during the project (Katz, 2006; Medda, 2007; Klijn & Teisman, 2005; Stoker, 1998). Contracts may also provide incentives and penalties to influence compliance behaviours of the partners (Iossa & Martimort, 2014; Wang & Pallis, 2014). Some have argued that public sector managers can behave strategically by abusing authority, corrupt practices and biased cost estimations (De Bruijn & Ten Heuvelhof, 2010). While corruption has been observed in PPP projects all over the world, the public purse is always the loser (Umar & Okafor, 2015; Ferk, 2014; Eadie, 2014; Fombad, 2015). The public sector is almost always at a



disadvantage due to lack of expertise and technical competence on the work to be performed by the private partner, resulting in information asymmetry in favour of the private partner (Lohmann & Rötzel, 2014; Spiller & Moszoro, 2014). This almost always results in the unequal distribution of power between the public and private partners and can create power struggles between actors for the partners (De Schepper, Haezendonck & Dooms, 2015; Ross & Yan, 2015; Galasso, 2015; Marques & Berg, 2011).

2.6.3 PPP governance and public accountability

The third critical area of PPP management challenges is project governance and public accountability (Vining & Weimer, 2015; Johnston & Gudergan, 2007; Abednego & Ogunlana, 2006). Strong project governance and public accountability are seen as bulwarks against corruption, and are effective to managing project risks and achieving public value for money (World Bank, 2003; Allard & Trabant, 2011; Bovaird & Löffler, 2009; Pollitt & Bouckaert, 2011). From the institutional perspective, a regulatory framework is crucial for governance of the PPP procurement process and direct organisational management and control of the project (World Bank, 2003). It is also important to clarify the legal environment and roles of the government and private partners in PPP initiatives and is crucial to preventing and settling political issues when they arise (Qiao, Wang, Tiong & Chan, 2001). A strong regulatory framework provides policy direction and clarifies the government's expectations for PPPs while providing a level of transparency that facilitates public accountability and citizen support (Verhoest, Petersen, Scherrer & Murwantara-Soecipto, 2014; Yang, Hou & Wang, 2013; Biermann, Abbott, Andresen, Bäckstrand, Bernstein, Betsill & Zondervan, 2012). However, institutional frameworks for PPP governance have been contentious issues; private partners and supporters of the NPM philosophy often prefer as little government regulation as possible (Emerson, Nabatchi & Balogh, 2012; Estache & Serebrisky, 2004; Johnston & Gudergan, 2007). However, weak institutional regulations often lead to more power imbalance for the public sector managers, adverse strategic behaviour of private partners and subsequent PPP failures (Vining & Boardman, 2008; Liu & Cheah, 2014; Eberlein, Abbott, Black, Meidinger & Wood, 2014; Johnston & Gudergan, 2007).



Institutional framework and definitive regulations are also necessary for transparency and public accountability. Studies of failure in public accountability on PPP projects in many countries suggest that stronger institutional regulation could have made a significant difference (Vining & Boardman, 2008; Mota & Moreira, 2015). Weak institutional frameworks inhibit effective performance monitoring of the PPP actors (public and private) and open projects to challenges of corruption and manipulation when outcomes are not positive (Umar & Okafor, 2015; Ferk, 2014; Eadie, 2014; Fombad, 2015). Further, according to Flyvbjerg (2009; 2013), McKeivitt (2015) and others, robust institutional regulation is necessary for ensuring that there is a high level of scrutiny of PPP project proposals, which help everyone to avoid catastrophic failures. Some empirical studies of PPP mega failures have pointed to weak institutional frameworks and inadequate due diligence as major causes of avoidable failure (Osei-Kyei & Chan, 2015; Bruzelius, Flyvbjerg & Rothengatter, 2002; Estache, 2010). However, it is often the case that emerging and developing countries are challenged to implement robust institutional regulation and often must depend on private consultants to assist their drafting; these private consultants then serve as advisers to their private partners in PPP negotiations (Abbott, 2012; Verhoest, Petersen, Scherrer & Murwantara Soecipto, 2014; Jamali, Lund-Thomsen & Jeppesen, 2015).

2.7 Conclusion

The main focus of the literature review was to provide an overview of what is known about PPPs in general, and ICT/IS service delivery and ERP implementation in emerging and developing countries. The aim was to provide a theoretical context to this research on PPP contract failure in ICT service delivery in South Africa. The concepts discussed in the various sections of the literature review provided context to the research and highlighted the challenge on the dearth of literature on PPP contracting for ICT/IS service delivery. There is a large body of literature on PPP contracts, e-government and ERP implementation, but literature does not address the challenges facing emerging and development countries such



as South Africa. Much work needs to be done to develop an understanding of the challenges facing these countries that are pushed by the main international organisations to implement PPPs as a vehicle for economic and capacity development and technology competence. Scholars have suggested that intensive research effort is needed to help emerging and developing countries overcome their distinctive challenges of deploying ICT for public management (Heeks, 2002, 2010; Dwivedi, Weerakkody & Janssen, 2012), Rana, Dwivedi, & Williams, 2013a; Srivastava, 2011). This PhD research project is a response to this call. The objective of this research is to develop an understanding of the conditions which have influenced failure of PPP projects for ICT implementation in the South African Department of Labour. An understanding of the key conditions and factors contributing to this failure could offer insights into what improvements in PPP institutional arrangements and management practice will be necessary for future success.



CHAPTER 3: Agency Theory

3.1 Introduction

Chapter 2 illustrated a relational structure that is central to PPP contracts between government organisations and private enterprises. The central challenge of such relationships is the management of divergent goals between government organisations and private enterprises. Agency theory offers an appropriate theoretical framework for the interrogation of the management challenges of PPP. In Chapter 3 the researcher will provide an outline of the background of agency theory, including an overview of concepts such as transaction costs, strategic behaviours and incentive schemes that could be a counter-measure to agency problems, and which are relevant to this research into the failure of the DOL contract.

3.2 Agency theory origin

Agency theory (See Figure 3) was originally applied in the context of private organisations exploring economic relationships between manager (principal) and an employee (agent). Despite the primal use in the private sector, agency theory can also be applied in the context of interfaces between the public and private sector when the principal delegates some of their responsibility to the agent to assist with enhancing public sector skills for service delivery (Ross, 1973; Jensen & Meckling, 1976; HM Treasury, 2003). According to Jensen (2003), agency theory is a kind of relationship that “. . . is a contract in which one or more persons (the principal) engages another person (the agent) to take action on behalf of the principals that involve the delegation of some decision-making authority to the agent”.

Agency theory argues that this occurs because agents are in most cases better informed than their principals about the execution of the tasks that they are mandated to do since they are seen as the experts. Hence organisations would benefit more if information could be shared at zero cost, while the software and hardware elements as well as development cost are the cost-bearing elements (Jensen, 2003). This would especially be beneficial if there were no



divergence between the goals of the principals and the agents from the rollout of the project and if there were risk mitigation strategies in place to manage service delivery. Moe, (1984) states that, “Agency theory was initially developed to scrutinise more general questions of inadequate information and risk sharing”.

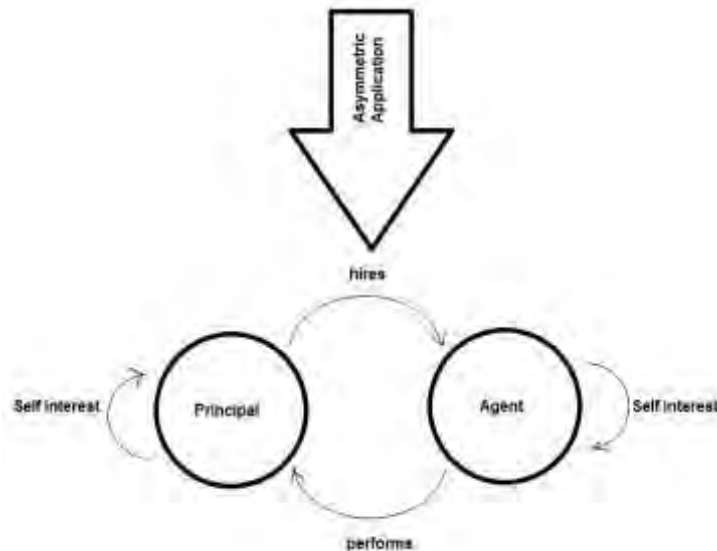


Figure 3: Agency Theory, Source: (Williamson, 1998)

Information asymmetries are used in agency theory where the agent possesses more knowledge than the principal, thereby stealthily manipulating the public sector. This is difficult for the public sector to detect until it is too late since it is trying to increase its expertise. Global experience shows that PPP contracting lacks ‘*ex ante*’ (evaluation and good preparation) of contracts that cover soft and hard issues of governance; these could penalise the agent for poor performance and could potentially eliminate moral hazard (European Commission, 2003). A long-term strategic plan and actor analysis should be considered as a preliminary valuation before a project is implemented. Long term strategic planning should be seen as an integral part of the project that provides direction and assists with developing specific goals, objectives and actions to achieve the desired vision of the ICT deliverables (Haezendonck, 2008). Strategic planning provides a platform for public



debates, resolution of conflict of interest and opinion to be addressed during the project, which could otherwise have been ignored at a later stage of implementation, causing delays or even stopping the project (Haezendonck, 2008).

The basic postulation “for agency theory is the asymmetric information between the principal and the agent which induces adverse selection during ‘*ex ante*’ contracting and moral hazard during ‘*ex post*’ contracting” periods (Jensen, 2003; De Almeida, 2012:29). Adverse selection refers to the fact that the principal is unable to access adequate information from the agent to back up the skills and deliverable capability the agent is selling before signing the contract (Williamson, 1998; Rui, 2008). Moral hazard is a strategic behaviour that refers to the endogenous variables of the private sector which cannot be freely observed by the principal, thereby causing monitoring problems (Gottlieb & Moreira, 2013).

There are two types of strategic behaviour defined by Laffont and Tirole (1993) in their book “A Theory of Incentives in Procurement and Regulation” which addresses adverse selection and moral hazard. Moral hazard, otherwise known as ‘ethical threat’, occurs when the agent (who has more information about their own activities and their nature of work) behaves inappropriately from the viewpoint of the principals (who has limited information).

Adverse selection encourage when the agent is privy to exogenous information that the principal does not have in the field of information technology (amongst other areas) and the agent’s superior knowledge allows them to charge a premium for services. Based on the huge skills divide between the agent and principal, the agent always has the capacity for shirking on project deliverables and allowing for opportunistic bargaining (Martimort & Pouyet, 2008).

Information asymmetry does not necessarily pose a problem if the agent’s interests are aligned with the principal’s for the benefit of both. Asymmetry, however, has affected the level of benefits affecting the principal and this is based on the assumption that goal conflict



exists between the principal and the agent. When the agent's behaviour is not managed or restrained, the goal of the principal is unlikely to be attained. Based on this behavior, the principal will apply new ways of contracting in order to minimise deviation from specified goals (Caers, Bois, Jegers, Gieter, Schepers & Pepermans, 2006). Agency theory framework will be used in Chapter 5 in order to explore risk factors and risk mitigation strategies impacting the PPP contract for ICT service delivery.

Below is an introduction to transaction cost, strategic behaviours, and monitoring, incentives and risk management.

3.3 Transaction cost

Based on the assumptions above of agency theory it is reasonable to believe that the agent will not always act in the best interest of the principal, thus the principal needs to restrict the goal of divergence and interest incompatibility by establishing appropriate and adequate incentives in the agency relationship. The establishment of appropriate incentives and introducing better monitoring mechanisms to curb the agent's aberrant behaviour can assist with limiting the agent from diverging from agreed-upon goals (Jensen, 2003). These efforts from the principal to divert certain actions from the agent are not without a price in the long run. Jensen (2003) defines costs below as transaction costs, also called agency costs.

1. The cost of creating and structuring contracts between the principal and the agent
2. The monitoring expenditure of the principal
3. The bonding expenditure by the agent
4. The residual loss, which means the dollar equivalent to the reduction in welfare experienced by the principal as a result of goal divergence; asymmetric information is also a cost of the agency relationship.

Based on agency costs, a distinction can be made between '*ex ante*' agency costs and the '*ex post*' agency costs. The '*ex-ante*' agency costs are the costs of the first type, incurred through creating and structuring the contractual agreement, including information research,



negotiation and contract information. The ‘*ex post*’ agency costs are costs related to the second, third and fourth type. It is cost spend on monitoring, execution and enforcement of the contract, as well as safeguarding and settlement of conflicts, adaptations and renegotiations during the contractual period (Obermann, 2007; Yesilkagit, 2004).

Drawing up and enforcing contracts are a costly process and sometimes incomplete (Laffont & Tirole, 1993). The reasons for characteristics of incomplete contracts are future contingencies and bounded rationality. The more difficult it is to foresee future contingencies and to formulate clear plans to mitigate challenges, the higher the transaction costs would be. Agents are not in a position to describe all potential contingencies that could affect the successful delivery of contract terms; this is based on the high cost and also the fact that some contingencies cannot easily be verified by the agent’s level of exerted efforts. Guasch (2007) argues that with regard to “granting and renegotiating infrastructure tenders”, the contracting parties are not always completely rational and therefore could make mistakes, leading to the need to familiarise themselves with the contract, requiring adjustment and optimisation over time. Williamson (2008) argues that bounded rationality can, when used for self-interest, be applied to disclose information in a selected and distorted manner. Calculated efforts to mislead, disguise, obfuscate and confuse are then admitted.

3.4 Strategic Behaviours

Relationships between the public and private sector are a principal-agent relationship in which the asymmetric circulation of information suggests ‘strategic behaviour’ (De Bruijn & Ten Heuvelhof, 2010). The challenge resulting from information asymmetry is that the private sector might shirk from contributing effectively to the mandate of the contract, or renege to behave in line with the requirements of government.

The moral hazard aspect comes into play during the contract when the agent’s performance cannot be monitored precisely in conjunction to the task that they have been assigned to deliver on, due to the lack of the principal’s knowledge and their dependence on the agent’s



so-called expertise. If the agent's interest is perfectly aligned with that of the principal, information asymmetry should not necessarily present a problem. That said 'asymmetry' could affect the level of benefit that should be transferred and absorbed by the principal, and that is based on the assumption that goal conflict exists between the principal and the agent. Therefore, if the agent's behaviour is not monitored or controlled, the delivery of the goals of the principal is likely to suffer and will not be attained. Monitoring and incentives, transaction cost and strategic behaviour are incurred by the agency relationship.

Strategic behaviour becomes evident when the agent uses their advantage to information to act strategically in their own interest over the principal's, this being a direct consequence of information asymmetry. Williamson (1998) has pointed out that strategic behaviour can be either defensive or offensive; the former involves the efforts to protect the strategist from harm and loss of interest, while the latter entails efforts of establishing and moving to an advantageous position by the strategist that can cause harm. This kind of behaviour is contrary to the efforts of satisfaction and protection of self-interest being pursued. There is no unified definition of 'strategic behaviour': De Bruijn & Ten Heuvelhof, (2010) distinguishes strategic behaviour by providing six characteristics:

- Strategic behaviour is spontaneous. The strategist reflects on his own behaviour, takes into account his opponent's spontaneous behaviour, and adapts his behaviour to it.
- Strategic behaviour is interactive. Strategic behaviour flourishes in circumstances where the actors are mindful of each other and can reciprocally anticipate each other's behaviour and react to it.
- Strategic behaviour has a time dimension. A time dimension of strategic behaviour is derived from its interactive character. Because of bounded rationality, the actors cannot fully anticipate others' behaviours and this cannot clarify everything in an arrangement (such as a contract), thus the need for the arrangement to be supplemented and reviewed over time.



- Strategic behaviour is unilaterally aimed at narrow self-interest. The core of strategic behaviour is that it serves the strategist's self-interest. It requires clarification that not all the behaviours that serve self-interest are strategic behaviours, only in the event that they are detrimental to public interest.
- Strategic behaviour is ambiguous. Based on the clarification above, strategic behaviour has two interpretations: either it is not detrimental to public interest; or strategic behaviour serves the strategist's self-interest at the expense of prejudicing the public interest.
- Strategic behaviour is intentional. The ambiguity of strategic behaviour is a familiar issue – the strategist emphasises that his behaviour poses no harm on the public interest and denies that the second interpretation (in the preceding point) is relevant.

These characteristics of strategic behaviour manifest in government procurement projects in many different ways. The agent has the unilaterally narrow self-interest of maximising profits in pursuing their interest; this could be detrimental to service delivery to the principal due to low quality service, cost overruns and opportunistic bargaining. Strategic behaviour has its own ambiguity, which provides the agent with the argument that they have no intention to take advantage of the principal in their pursuit to maximise profits. During the contract structuring phase, the behaviour of the principal and agent are reflexive and rational due to the negotiation process on the time frame of the project, quality, output specifications, cost, responsibility and risk sharing. This behaviour is purely for strategic reasons in order to ensure their objectives are met. Due to the incompleteness of the contract, because both parties cannot foresee contingencies in the future, allowance needs to be made for adjustments and changes to contractual terms with limited cost implications during the contract period.

Technically, the nature of the contract can be complex or not as complex as the agent makes it out to be. If it is complex, the agent may be in a position to convince the principal that the contract is mediocre in order to be satisfied with the output levels normally associated with average contract deliverables. Martimort & Pouyet (2008) show that giving the principal



and resources incentives to ensure they are not in collusion with the agent and to monitor all levels of contracts can avoid conspiracy. Moral hazard (post-contractual opportunism) and adverse selection (pre-contractual opportunism) are two factors that have accompanied loss of government control in PPP contracting (Gottlieb & Moreira, 2013). Moral hazard is a strategic behaviour that refers to the endogenous variables of the agent that cannot be observed by the principal. Challenges by the principal to vigilantly observe the agent's behaviour, reduce the principal's input level, which could influence project cost and quality and lead to moral hazard. Fewness and position (defined in the next two paragraphs), combined with moral hazard and information asymmetry, are referred to as strategic behaviour that could influence contract outcomes if it is not observed in PPPs (De Bruijn & Ten Heuvelhof, 2010; Bain, 1950; Yarrow, 1985; Hunt & Morgan, 1995; Gottlieb & Moreira, 2013).

Fewness relates to two market competitions, monopoly and oligopoly; these become two of the elements that the private sector uses against the principal when selling their services. Most consulting organisations have had monopoly in providing a niche service to the public sector, based on their expertise in the particular field and on mastering competitive tendering procedures during the procurement process (Bain, 1950; Yarrow, 1985). Although monopolists know that pricing could be their downfall, they know they have been accredited with preferred supplier status, based on the history of success in the market that provides the public sector with the comfort that they are the right partners. Although they might lose customers through higher pricing, monopolists know they will make profits from charging the 'right price', meaning 'higher price', which will compensate them for the loss of customers (Stern, 1987; Yarrow, 1985). An oligopoly lend itself to colluding, such as a 'cartel mentality' in which agreements are made amongst a limited number of competitors on the price and quantity of the service, thereby creating the risk that some of the competitors may privately break up the collusion, decreasing pricing and increasing quantity. Fewness has the potential to substantially reduce competition amongst service providers if it is managed constructively to ensure efficiencies in contracting. Monopolies



allow service providers to reduce service quality and create high transaction cost, whereas oligopolies allow the few providers to collude with each other during the tendering process, in order to get the contract and deal with consequences later; as a result of this manipulation the public sector opens itself to moral hazard (Martimort & Pouyet, 2008).

Position is what monopolists and oligopolies pride themselves on in a competitive market, since position can prevent new entrants by displaying creditable threat (Hunt & Morgan, 1995). It would be advantageous for the principal to take on a strong position when negotiating with the agent in order to dispel monopolist or oligopolist behaviour. This will enable the principal to become more skilled in the services that are required in order to manage contract deliverables and to ensure successful outcomes without incurring cost overruns, through renegotiating contracts or lack of penalising the agent for non-delivery of agreed contract terms. A strong position from the government will provide taxpayers and opposition parties with confidence when the public sector engages with the private sector for service delivery; it will also discourage the private sector from shirking on deliverables that will eliminate the propensity for moral hazard (Gottlieb & Moreira, 2013).

According to Sharma (1997), principals can tactically provide methods to monitor the agent behaviour and to safeguard that the agent behaves as specified in the contract. For instance, the principal can ease information asymmetry and can impose sanctions if the agent diverges from expected criteria of service delivery. This will require a full time project manager – even though expensive, this could be useful to manage the agent in efficient execution of the contract. Rigidity could develop between information asymmetry and the cost monitoring methods. Therefore, if the agent's behaviour cannot be monitored, principals can implement an alternative solution that is based not on reducing information asymmetry, but on definite performance of the agent as measured by the outcomes comparative to expectations (Sharma, 1997).

Therefore, Jensen and Meckling, (1976:81) indicate that agency theory recommends that;



the principal can limit divergence from his interest by establishing appropriate incentives for the agent and by incurring monitoring costs designed to limit the aberrant activities of the agent. In some situations it will pay the agent to expend resources (bonding costs) to guarantee that he will not take certain actions, which would harm the principal (Jensen and Meckling, 1976:81).

This to the extent that there is still some slippage between the goals of the principal and those of agents, the former bears the residual agency cost, which is “the dollar equivalent of the reduction in welfare experienced by the principal due to this divergence” (Jensen & Meckling, 1976:81). When principals in their own capacity cannot afford the cost of information gathering (monitoring) devices, agency theory predicts that third-party institutions (i.e., auditors, advisors, rating agencies, e.g., Standard & Poor, Moody’s) will arise to fill the gap and assist with economic exchange between the parties (Fama, 1980; Sharma, 1997).

The theoretical resolution that requires risk transfer to agents is based on relaxing assumptions that the agents are risk adverse (Sharma, 1997; Harris & Raviv, 1979) and/or that they are powerless to resist the imposition of a risk greater than they would like to bear (Sharma, 1997; Perrow, 1986). In spite of suggestions made by agency theory, several researches have shown that concerns remain about agent opportunism, since the principals are often at the mercy of the agents (Bazerman et al., 1992; Sharma, 1997). The persistence of agency problems in many sectors raises questions about the completeness or even appropriateness of mainstream agency perspectives; unresolved issues in the theory provide the impetus to explore factors that impede application of agency solutions and, for that matter, to scrutinise the theory itself so that its structure may be refined.

3.5 Monitoring and incentives

It cannot always be assumed that the agent will perform according to the contractual terms in agency theory; therefor the principal will have to find measures to ensure that the agent



has the best intention and that their actions do not impact the principal's interest. The principal can implement measures to monitor the agent but, if it is not a tangible, it might be difficult to evaluate whether the work has been performed, as in the case with information systems implementations. Long contractual periods pose a specific problem since errors cannot be detected immediately on the project quality and problems can be concealed only to be revealed at periods of testing and integration (Lane & Kivisto, 2008). It is costly to monitor contracts that are spread over long periods. A period of ten years for IS implementations is presumed to be too lengthy because of the rapidly changing technical environment. Technical and professional skills are required that understand PPP contracts for ICT/IS service delivery by assessing professionally trained agents with practical and technical skills to have the capability to assess the private sectors performance (Walsh, 1995). There is always the option of creating positive incentives for agents based on their performance, to try to mitigate shirking and delivering according to the contract terms (Lane & Kivisto, 2008; Brehm & Gates, 1999). This could curb the requirement of micromanaging the agent's performance and could attempt to establish mutual trust and commitment, so that successful delivery of PPP contracts could be fulfilled. Monitoring and incentives should be combined with each other, inducing the agent to be compliant with the contractual terms, specifically long-term contracts where reliance is on reputation. Parker and Hartley (2002) state that those contracts that are reliant on reputation are central to contracting. Reputation could become a business and may be substituted for detailed contractual controls (Powell, 1990; Klein, 1999; Gulati, 1998), hence it is assumed that the more well known in the market the easier it becomes for contractors to build a reputation for quality workmanship. Lane, (1997) indicates that reputation building might not work in some social and economic contexts, based on underdeveloped legislative and regulatory frameworks. Williamson (1996; 1998; 2008) acknowledges that contracting with private sector consultants based on good reputation may reduce 'ex post' strategic behaviours and affect transaction cost, hence the requirement for 'relational contracting' that places more reliance on reputation, although threats of strategic behaviour still exists.



The principal can introduce a set of incentives to increase the agent's efficiency, but these incentives could prove exorbitant. Incentives could have different effects on the projects. The main assumptions underlying a principal-agent framework are:

- a. **Information is asymmetric between the parties.** In general, the agent (the private sector) has more information about its own actions (moral hazard) and the so-called 'opposing choice' (adverse selection), and
- b. **The agent pursues its own interests**, which may oppose those of the principal (the public sector).

These expectations are very similar to the fundamentals of a PPP contract, with the government acting as the principal and the private sector as the agent. When the government engages the private sector to perform a certain task on its behalf, it tries to negotiate a contract that will specify the applicable parameters, including the requirements and measure of output; specific benchmarks and timing; and the tools by which the government will control the performance of the private sector operator.

Where incentives cannot be perfect, it has been found to lead to moral hazard issues on the part of the agent. Moral hazard issues can be reduced by the principal calling in auditors to assess the nature of the private sectors deliverables compared to the contract (Gottlieb & Moreira, 2013). Global experience has proven PPP projects benefit from introducing effective risk management strategies (HM Treasury 2005). Most partnerships are risk-adverse which gives rise to a cost such as insurance in order to mitigate risks.

3.6 Risk Management

There is a disproportionateness of roles and of information between the public and private sector and perception biases complicate the rational assessment of risk management, which aggravates the impact of information asymmetry. It has been discovered that research concentrates on single aspects, such as risk allocation (Roumboutsos & Anagnostopoulos, 2008); or quantitative risk analysis (Wibowo & Kochendörfer, 2005). Researchers have advanced the technical aspects of risk management in practice, but have given less focus to



the managerial challenges on risk for PPP projects (de Palma et al., 2009; Fischer, Leidel, Riemann & Wilhelm Alfen, 2010). Fischer et al., (2010) suggests that an integrated risk management approach could improve the risk management challenges by integrating the techniques into a wider framework of application. An approach to the life cycle oriented risk management framework has been developed by Zou, Wang & Fang, 2008), with a focus on risk allocation, separating the process into preliminary risk distribution, detailed risk distribution and reorganisation. To further advance this framework, it is necessary to rethink risk processes and to develop an overall conceptual approach to risk management. However, risk management will only operate properly if it is part of a well-established project management structure.

The allocation of risks in PPPs cannot rely on the implicit assumption that the public and private sector are on identical or (horizontal) footing in partnerships (de Palma et al., 2009). The private sector is contracted by the public sector to undertake a project, which implies hierarchy, which has implications on risks affecting the PPP contract for the ICT/IS service delivery. Delegating responsibility to the private sector (through a contract) adds a set of risks distinct from those linked with the running of the project. These risks might be different in nature, but it is usually difficult for government to unravel both risks based on the fact that the private sector has more information and knowledge than the public sector. Particularly in respect to its ability to carry on tasks and the nature of its actions – the public sector cannot determine with accuracy the capability or skill of the private sector (as they private sector may enjoy commercial or market exposure) (Martimort & Pouyet, 2008; Leruth, 2009). The public sector can observe the output of the PPP but, in the case of low output, will not be able to determine whether it relates to low-level effort on the part of the private sector. It is therefore vital that, when a contract is signed, the public sector should ensure all clauses are in the contract and that it is being monitored, e.g., (controls, penalties) that could limit but generally not prevent the ability of the private sector to partake in corruption (de Palma et al., 2009).



3.7 Theoretical framework

Theory on PPP contracting for ICT/IS service delivery was introduced in Chapter 2 and agency theory that is applied is followed up in this chapter. Before proceeding with empirical research, the researcher adopted and extended a risk framework developed by Ngwenyama and Sullivan (2005) to direct the research. The framework consists of five risk categories and related risk factors which, if not appropriately addressed, may lead to negative outcomes. The large amounts of literature on risk management for PPP contracting and IS outsourcing provided by researchers (Rouboutsos & Anagnostopoulos, 2008; Fischer et al., 2010; Lacity and Hirschheim, 1993; Earl, 1996; Aubert, Patry & Rivard, 1998; Bhattacharya, Behara & Gundersen, 2003; Ngwenyama & Sullivan, 2007) assisted with constructing this framework.

While the list of risk factors are by no means exhaustive, it covers the most significant risk affecting PPP contracting for ICT/IS service delivery and should be covered in a contract for information systems (IS) implementations. A brief description of each risk factor will be discussed below, and then be expanded on in detail in the subsequent studies. Lack of performance monitoring is one of the most critical risk factors since, if performance is not monitored diligently, the chance of consultants behaving opportunistically is drastically increased. The unfortunate challenge is that monitoring performance requires skilled management that has complete oversight of the project scope and will ensure that penalties are imposed. The idea is that it must be very costly for consultants to underperform. Based on low barriers to entry in ICT/IS service delivery, the chances of an inappropriate vendor being selected is quite plausible. Adverse selection is the main driver behind inappropriate vendor selection based on nepotism that influences the selection process. Organisations will choose a partner based on market exposure instead of technical expertise. The lack of skilled IS resources and competent management fuels the impact of the first two risk factors in the following table. Lack of experience and skilled management leads to dependency on consultants, destroying value, declining service levels and ultimately escalating cost that plagues the contract's viability. As the terms of the contract increase and consultants are



under threat to perform, moral hazard becomes the next obvious significant risk. This ultimately derails contract success because, when consultants renege on deliverables, ethical standards are compromised. It leads to attrition of key skills and tarnishes the agent's morale. Lastly, lack of strategic planning to revisit and review contract activities is the ultimate risk. If robust strategic management exists, contracts can be managed and failure could be minimised. This, however, requires competent management with the correct support structures to ensure that adequate monitoring and performance measures are reviewed and enhanced as the contract progresses.



Table 4: Risk Analysis Framework for PPP contracting for ICT service delivery, Source: Sullivan and Ngwenyama (2005)

Risk Category	Description of Risk	Citations
Lack of performance monitoring	<ol style="list-style-type: none"> 1. Inability to completely specify project scope and service level requirements. 2. Inability to specify performance metrics 3. Lack of incentive and penalty mechanisms for inducing consultant performance 	Bryson & Ngwenyama, 1999, 2000; Nelson & Richmond et al., 1996; Brazel, 1982; Dewatripont & Legros, 2005; Roumboutsos & Anagnostopoulos, 2008; Fischer et al., 2010
Inappropriate vendor selection	<ol style="list-style-type: none"> 1. Lack of experience with IS implementation and technology 2. Expertise in another field of IS 3. Consultants inaccurately claiming to be a market leader and reputable service provider 	Laity & Hirschheim, 1993; Demski & Feltman, 1978; Ngwenyama & Sullivan, 2005
Lack of competent management and skilled Information systems resources	<ol style="list-style-type: none"> 1. Lack of expertise for managing principle agent relationships 2. Lack of expertise for managing collaborative work processes 3. Lack of management systems for information sharing 	Earl, 1996; Ngwenyama & Sullivan, 2007; Dewatripont & Legros, 2005; Bryson & Ngwenyama, 2000
Moral hazard	<ol style="list-style-type: none"> 1. Information asymmetry and non-disclosures resulting in inappropriate vendor selection 2. Opportunistic bargaining on the part of the vendor 3. High cost of changing partnerships (the principal to replace agent). 	Ngwenyama & Bryson, 1999; Williamson, 1996; 1998; Bazerman, Neale, Valley, Zajac & Kim, 1992; Sharma, 1997; Gottlieb & Moreira, 2013
Lack of strategic planning	<ol style="list-style-type: none"> 1. Lack of appropriate opt-out arrangements and penalties in case of vendor non-performance 2. Lack of flexibility to amend the project plan without incurring additional costs 3. Lack of long term human resource capability development planning 	Miller & Lessard, 2008; Demski & Feltman, 1978

This framework will be developed to include risk mitigation strategies that will be used in all three studies to explore risk impacting the success of the PPP contract for ICT/IS service delivery.



CHAPTER 4: Research Methodology

4.1 Introduction

This chapter provides a general description of the research method applied, as well as a discussion on procedures and techniques used to gather and analyse the data. The research uses an interpretive approach and a single case study, which will be analysed qualitatively, using a multi methods strategy consisting of content analysis and critical discourse analysis to analyse the data. This research project consists of three studies and all the studies use the same type or similar form of data, though the actual data sets are diverse. Data collection methods include gathering documents, conducting interviews, using printed and digital material from different websites, as well as face-to-face interviews with internal and external stakeholders who worked on the project. Research methods include gathering, assembling, planning and analysis of data with the mindfulness of the research paradigm. The analysis techniques are particularised in each of the individual studies.

4.2 Principles for conducting interpretivist research

The research is underpinned by the methodological assumptions and concerns of interpretivism in the IS field (Orlikowski & Baroudi, 1991; Walsham, 1995; Ellway & Walsham, 2015). Interpretive researchers try to learn from detailed in-depth observations (Walsham, 1995) and challenge the nomothetic view. They make assumptions that reality is perceived individually and knowledge is constructed through social interaction (Orlikowski & Baroudi, 1991; Lee & Baskerville, 2003; Stake, 2005).

Information Systems research can be classified as interpretive if it is anticipated that knowledge of reality is gained only through social construction such as language, awareness, shared meanings, documents, tools and other artefacts (Klein & Myers, 1999). The consequence and meaning of social constructions for planning research methodologies is that it can only be extrapolated through collaborations between the researcher and participants (Guba & Lincoln, 1999).



Table 5: principles for conducting interpretive research, Source: Klein & Myers, 1999.

Principle	Methodological Emphasis	How the Principle was applied
1. Hermeneutic tradition	Explain the nature of socially constructed human meanings and the interdependent meaning of the parts and the whole that they form	Nothing was accepted at face value. Many discussions and verification of data were corroborated, e.g., stakeholders and the media; stakeholders and minutes of meetings; stakeholder interviews as well as the contract. The preparation of three different studies is an iterative process in itself and reflects the researchers' interpretation of all aspects of the case.
2. Contextualisation	Explain the socio-historical context so that the intended audience can understand the emergence of the current situation	A conversation with stakeholders in the initial phase of the contract on how to deal with the challenges was the researchers' original interest in the project. Thereafter the researchers followed the progress and when key stakeholders started leaving the project due to inconsistencies the researcher decided it would be an excellent research project specifically having witnessed so many projects going off the rails. The researcher comprehensively accounted for all aspects of the case in all three studies.
3. Interaction between researcher and subjects	Explain the mutual interactions of the researchers with the participants. It stresses that social facts are produced as parts of the social interaction of the researchers with the participants	Data was gathered initially from meetings with stakeholders. After meeting with stakeholders, it was important to get the contract and any other documentation that was available about the project, in the media as well as on the project site.
4. Abstraction & generalisation	Explain how insights are derived through the use of a particular theoretical lens acting as a sensitising device to view the world in a certain way	Walsham, 1995 suggests four types of generalisation. The 1 st generalisation is to develop concepts of which study 1 contributes to this type of generalisation and the "risk factors" that were introduced. The 2 nd generalisation is the generation of theory; that is where propositions were developed in the first study from the empirical observations. The 3 rd generalisation draws from specific implications directly related to the second study and the interview findings grouped into the five concepts. The 4 th generalisation looks at valuable insights, which are found in all three studies but made explicit in, study three using Harbemas' 1984 validity claims.
5. Dialogical reasoning	Explain possible contradictions between the theoretical preconceptions and the data gathered, allowing for a subsequent cycle of revision.	Important theoretical presumption relating to the presence and consequential response of existing research of how PPP contracts for ICT service delivery in the IS domain will be operationalised. The development of the researchers understanding was not limited to specific theoretical concepts as new themes emerged. The fact that this thesis consists of three studies provides an understanding of how the research improved and evolved.
6. Multiple interpretations	Explain possible variations in participants' interpretations. This principle asks researchers to present possible variations in interpretations among the participants.	Much iteration of the media articles, minutes of meetings and interviews were conducted to ensure a thorough understanding of the challenges and to avoid misinterpretation.
7. Suspicion	Explain possible bias in narratives collected from the participants and in finding alternative explanations to the problem under investigation	There was a lack of input from end users but the researcher was cautious nonetheless of potential bias by verifying facts from interviews and newspaper comments. Study 3 using CDA assisted with the challenge of distortions and biases.



When these constructions are elicited, they are interpreted through hermeneutics – Klein and Myers (1999) affirm that the core principle of hermeneutics is the hermeneutic circle proposed in the principles for interpretive field research. Klein and Myers (1999) use seven fundamental and interdependent principles for conducting interpretive research; these have been widely used in IS research and are exemplified below (Sarker & Sarker, 2009; Vaast & Walsham, 2009; Ellway & Walsham, 2015). These principles are not intended to be administrative rules of conduct, since the presentation of one or more of them still require considerable original thinking.

4.3 Research Approach – Single Case Multi-Methods Strategy

The case study method is a well-established approach for conducting IS research (Benbasat & Goldstein & Mead, 1987; Lee, 1989; Walsham 1995; Klein & Myers, 1999; Ngwenyama & Nielsen, 2014). Firstly, it is an empirical enquiry that investigates an existing phenomenon within a real life context. Secondly, it uses multiple sources of evidence and assists with clarification of the boundary between the phenomenon under examination and its background.

Case studies' contributions are limited to proposing hypotheses for testing with nomothetic methods (Ngwenyama & Nielsen 2014; Benbasat & Goldstein, Mead, 1987), while others convincingly argue that a single case study can falsify an existing theory (Campbell, 1979; Lee, 1989). Still others argue that case study research offers the power and possibility to generalise from empirical observations to theoretical statements (Eisenhardt, 1989; Walsham, 1995; Klein & Myers, 1999; Lee & Baskerville, 2003). On the issue of theory development from case studies, Lee (1989) suggests that any three of the following four criteria are sufficient to validate the new theory's explanatory power (Ngwenyama & Nielsen 2014).

1. Does the case study consider predictions through which the theory could be falsified?



2. Are all of the predictions consistent with each other?
3. Does the case study confirm the theory through empirical evidence?
4. Does the case study rule out rival theories?

The case study research satisfies all four criteria:

1. The researcher developed a framework consisting of five risk factors which allowed for empirical observations of the challenges to be articulated.
2. The researcher postulated a set of propositions grounded in empirical observations consisted with literature focusing on the risk factors;
3. Empirical evidence from the case supports the claim that the lack of performance management and relevant risk management strategies will affect the success of ICT/IS implementations;
4. The researcher can provide a theoretical explanation on how to manage PPP contracts for ICT/IS implementations and to improve management competencies.

Yin, (2003; 2013) suggests that a single case is appropriate if the case was not:

1. previously accessible by researchers,
2. a critical case that can be used for testing a well formulated theory, and
3. an extreme or unique case.

The unit of analysis was a single case selected because of the unique nature of PPP contracting for ICT/IS service delivery and because it was part of a ten-year IS implementation in the public sector. The ERP implementation was designed to align business objectives with the e-government vision to achieve efficiency with service delivery to the public and to transform staff to knowledge workers over time. Single case studies provide rich, contextual insights into the dynamics of phenomena (Dyer & Wilkins, 1991; Walsham, 1995; Stake, 2005).

The combination of multiple analysis techniques provides the rigour required for eliciting data to strengthen and confirm the results. The reason for using a multi-methods research



strategy is to facilitate interrogation of the empirical situation from multiple perspectives. The multi-methods approach is considered appropriate for studying interactions between people, technology in social situations, and as a means of enhancing the research process (Esteves & Pastor, 2004). According to Jick (1979), there is a distinct practice in the literature on social science research methods that advocates the use of multiple methods. This form of research is frequently described as one of convergent empirical analysis (Campbell & Fiske, 1959) and convergent corroboration, or what has been called ‘triangulation’ (Webb, Campbell, Schwartz & Sechrest, 1966). This interpretive multi-methods approach is guided by hermeneutic principles that help the researcher construct ‘an understanding of the data developed from a constant re-interpretation of existing data/observations in the new light of unfolding events’ (Sawyer, 2000: 218).

The fact that there might be limited discussion on multi-methods research for studying the roles of information technologies in organisations is due to the diverse skills required in presenting explanatory research (Van Maanen, 1995a; 1995b). Since “what we know is always shaped by how we came to know it” (Brewer and Hunter, 1989, p.66), the purpose for multi-methods research or data collection is to draw on the strengths of some to make up for the (often well-known) weaknesses of others (e.g., Campbell, Stanley & Gage, 1963; Miller, 2013; Miles & Huberman, 1994). This might be due to the publication format, in which journals limit the length and, thus, the explanatory approach, of multi-methods research (Yanow, 1995). This might also be due to the present expectations about the use of theory and the role of empirical data (Sutton and Staw, 1995). Regardless of the limitations given, the impending worth of multi-methods research is vital for these deliberations to continue.

4.4 Data Analysis Procedure

The data was collected over a period of three years from several sources, stakeholders of the project, the media and various documents. **Table 6** below provides a summary of the qualitative data for this research.



For Empirical *Study 1*, the researcher collected the following documents: (1) the service agreement between the DOL and SIS (See Appendix 1) and (2) the PPP policy guidelines (Treasury, 2004). These documents were analysed using content analysis techniques, which will be discussed later.

For Empirical *Study 2*, researcher conducted interviews with stakeholders and used minutes of meetings attended by senior stakeholders such as the Minister of ICT service delivery, Chief Information System’s officer (CIO), senior public managers of the PPP unit and some consultants.

Empirical *Study 3*, the researcher downloaded several media reports from a number of different websites, namely Department of Labour news desk, Engineering news, Times live, IT-online, IT-Web, Creamer media, Business technology and Sheq Africa, all of which are influential in communicating failed public sector ICT initiatives and the cost to government. The corpus of empirical material consisted of 20 documents that were identified as follows: EO1-EO20 (see Appendix 3).

Table 6: Data Summary, Source: The Researcher

Study	Title	Data Source
Study 1	An agency theory interrogation into risk factors and risk management strategies; The PPP contract between the Department of Labour and Siemens	Public Private Partnership contract, Service level agreements and the PPP Policy Guidelines
Study 2	A qualitative enquiry of the perceptions of key informants on ICT service delivery using content analysis	Interviews and minutes of meetings from various internal and external stakeholders that were part of the PPP contract initiation and management.
Study 3	A Critical Discourse Analysis of Governance Issues Affecting Public Private Partnership Contracting for Information Systems Implementations: A South African Case Study	Various media sources

The following section provides a brief overview of the different methods of analysis that will be used for each of the three studies.



Content analysis

Content analysis research is inspired by the search for methods to infer from symbolic data that would be too inflated, no longer conceivable, or too obtrusive by the use of other (research) techniques (Krippendorff, 1980:51) as cited by (Ngwenyama & Sullivan, 2007). Content analysis has been used successfully by several IS researchers. It is a method of manual and automated analysis of the semantic content of documents (Ngwenyama & Sullivan, 2007), e.g., authoritative documents, contracts, newspapers and transcripts of audio or video media, to make inferences, derive in-depth understanding, or to draw conclusions about the key challenges faced by PPP contract management and management competencies for ICT service delivery for information systems.

It refers to the examination of texts in which researchers obtain the groupings from the text in an interpretive manner (Mingers, 2001). It allows researchers to make duplicate and valid extrapolations from texts (Krippendorff, 2004). This method assumes that reality can be interpreted in different ways (Graneheim & Lundman, 2004). Therefore, the mindfulness of the researcher's role and of multiple meanings of text is fundamental in content analysis. Content analysis has been very prevalent in analysing documents, historical records, literature etc. and has a rich history in the field of political science, social psychology, journalism, communication research etc. (Kassarjian, 1977). It has the capacity to produce valuable understandings of human experiences within a specific context by allowing deep analysis (Castro, Kellison, Boyd & Kopak, 2010). It allows researchers to assess communications in an unassuming manner (Kolbe & Burnett, 1991) and can be used as a companion method in a multi- methods research (Kolbe & Burnett, 1991). Critiques have pointed out that qualitative approach is weaker since it often depends on a smaller sample. Other critiques argue that qualitative approach does not offer generalisability, reliability and validity of results compared to those of quantitative approaches (Castro et al., 2010). In response, Denzin and Lincoln (1994) state that those criteria are not always relevant for qualitative research, while other researchers (Kaplan & Maxwell, 2005) argue that collecting rich data can ensure reliability and validity of qualitative research, triangulating



multiple sources of data, attending to conflicting and negative cases, collecting feedback etc. It is important to note that achieving all the criteria may not be possible, given various purposes and perspectives of qualitative research. Nevertheless, the researcher must acknowledge her role as a research instrument and attempt to adhere to as many criteria as the research design and purpose permit.

Qualitative content analysis has been classified in dissimilar methods. One classification identifies two methods – conceptual and relational. Conceptual analysis looks for presence, dominance and centrality of concepts in the text, whereas relational analysis accounts for co-occurrence of concepts along with the concept frequency in the body of the text (Indulska, Hovorka & Recker, 2011). Hsieh and Shannon (2005) identify three approaches – conventional, directed and summative. The conventional approach focuses on direct coding from texts; the directed approach uses concepts derived from relevant theories as a guide for preliminary coding; the summative approach employs comparison, frequency counting of concepts followed by interpretations (Hsieh & Shannon, 2005). *Study 1* is a qualitative enquiry from an agency theory perspective analysing the PPP contract and policy documents, while *Study 2* is an analysis of interviews and minutes of meetings.

4.4.2 Critical discourse analysis (CDA)

“Traditional approaches to discourse analysis use only qualitative techniques”; in this approach of CDA the intent is to use both critical hermeneutics analysis and content analysis techniques (Cukier, et al., 2009). Analysis will be conducted on a variety of media articles using Habermas’ (1984) four validity claims: comprehensibility, truth, sincerity and legitimacy (Cukier et al., 2009). According to Cukier et al (2009), the general procedure to operationalise CDA can be summarised in four steps. It is important to note that Steps 2 and 3 are extremely repetitive and that the empirical evidence from these two steps can prompt further data collection.

1. Step 1 involves defining the corpus of data to be analysed. The political context and relationship among participants are essential in CDA (Ngwenyama & Lee, 1997). As such, the researcher will have to identify documents necessary to explicate the



context as well as documents of immediate communicative exchange. Furthermore, the researcher must ensure that multiple data sources are used to ensure corroboration of the evidence.

2. Step 2 involves content analysis and coding procedure. All the files for the study will be converted from Microsoft Word to PDF documents and will be imported into ATLAS/TI. Multiple data sources will be used to ensure corroboration of evidence. These data sources will be retrieved from the Internet by doing extensive searching on every article written about the DOL and SIS failure. The objective of the analysis will be to identify empirical observation pertaining to the validity claims and to determine the frequency of use of specific arguments.

- The initial stage for the analysis will involve coding under different themes that were developed.
- The second stage will be to go through each theme to ensure that the correct empirical observation is recorded and to re-group the observations under the correct theme if they were not.
- Each theme will be used as a search term and all the documents will be perused, using one theme at a time, before moving on to the next theme.
- On searching through the articles, each statement that relates to the theme will be encoded.

3. Step 3 includes reading and interpreting the empirical observations. The texts will be read to unearth inferred or unequivocal validity claims. These claims will then be tested for empirical observations that negate the validity of claims in the text.

4. Step 4 involves explaining the findings. The explanation of the findings will draw on the broader context of the textual analysis and explore the deep structures it reflects.

In summary, this chapter on research methodology discusses the research principles and methods that will be followed and are particularised to each of the three studies. The following is an outline of the research project (See **Table 7** below).



Table 7: Research Methodology Summary, Source: The Researcher

Topic	Method
Philosophical paradigm	Interpretive
Research purpose	Explanatory
Data analysis	Qualitative
Methodology approach	Multi-Methods research approach
Theoretical framework	Agency theory
Data Sources	Contract, policy guidelines, minutes of meetings, interviews and media articles
Study 1	Content analysis
Study 2	Content analysis
Study 3	Critical discourse analysis

4.5 Causal loop modelling

Causal loop modelling will be used to integrate the empirical findings of the 3 studies and to illustrate the theoretical contribution of the Thesis in chapter 8. To illustrate the interlocking conditions and develop a more general explanation of the empirical observations the researcher will develop a causal loop modelling technique proposed by Senge (2006). The causal loop model is a useful tool for illustrating and theoretically elaborating the empirical findings. It will enable the researcher to capture and model influences of organisational conditions and responses of the organisational actors as they tried to mediate the challenges of the PPP project.

The next three chapters will discuss each individual study in detail.



CHAPTER 5: *Study 1: An interrogation of the PPP institutional framework, PPP policy documents, PPP management prescriptions to develop risk identification and risk management strategies*

Abstract

This study investigates risk factors and risk management strategies influencing the failure of Public Private Partnership (PPP) contracts for ICT service delivery in South Africa. The public sector has experienced major ICT service delivery failures. Government has been under media scrutiny for incompetent management practices and a waste of the citizens' taxes. Using an agency theory framework and qualitative content analysis, the researcher interrogated the PPP policy and a government department contract from a risk perspective. Content analysis, was used to interrogate the PPP policy and contract documents, to build on a comprehensive risk framework that. The agency theory framework suggested that risk factors for ICT service delivery are widely acknowledged in literature however, these were not specified in the PPP contract for ICT service delivery. The analysis identified risks inherent in PPP contracting that should be addressed to manage ICT service delivery. The risk framework provided risk management strategies, which could provide important insights to improve future, PPP contracting relationships for ICT services.

Keywords: PPP contracting, risk management, Contracts, Policy, Information management



5.1 Introduction

This paper uses an agency theory framework to interrogate risk factors and risk management strategies influencing the failure of the PPP contract for Information Communication and Technology (ICT) service delivery. The aim is to establish: 1) How the Government Policy defined risks in PPP contracting for ICT service delivery; and 2) What prescriptions were defined for managing risks in the PPP contract for ICT service delivery?

The reasons the researcher investigated the contract was to develop an understanding of the factors that led to the failure and termination of the ICT service project after ten years. This PPP contract for ICT service delivery was the first of its kind in South Africa at a cost of R2 billion to government (KZN PPP benchmarking study, 2005). In 2012, after ten years of little progress, a negotiated settlement was reached to terminate the contract due to the failure of the private partner to deliver on the contract requirements (Furter, 2012).

While this was the first failure of its kind in South Africa, these types of PPP failures for IT services are well documented around the world (Flyvbjerg, Holm & Buhl, 2002; Flyvbjerg, Bruzelius & Rothengatter, 2003; Dwivedi et al., 2014; Dwivedi et al., 2015). Dwivedi, et al., (2014): mentioned that knowledge gain in the Management of Information Systems (MIS) domain has failed to impact successfully on policy and practice of IS implementation and has increased the risk of failure. These major IS failures prove that, regardless of years of gathering substantial knowledge within MIS (see, for example, Avison & Wilson 2002; Barker & Frolick 2003; Beynon-Davies 1995; Bussen & Myers 1997; Cerpa & Verner, 2009; Dwivedi, et al., 2015; Fitzgerald & Russo, 2005; Heeks, 2002; Kappelman, McKeeman & Zhang, 2006; Lyytinen & Hirschheim, 1988; McMaster & Wastell, 2004; Nelson 2007; Sauer, 1993; Yeo, 2002), additional work is required to improve the conduct of ICT initiatives. Many IS failures have been reported by Nelson (2007) in both public and private sector which has had negative consequences in terms of financial losses and other risks (Bruque, Moyano & Eisenberg, 2008; Laumer & Eckhardt, 2012; Maier et al.2013). Examples of high-profile IS failures are:



1. The 10 year PPP ICT contract between the British Broadcasting Corporation (BBC) commenced 2004 with guaranteed annual savings of £35.2m but by April 2006 savings reduced to £21.8m. “While reported performance against key service targets has been high, most of the early technology projects commissioned from Siemens experienced delays or cost overruns.” (HC Public Accounts Committee, 2007),
2. The London Underground PPP failure was was estimated at GBP4.1billion (UKNAO, 2009),
3. The spectacular failure of the UK Government abandoning the national ID card project (Dwivedi, Wastell & Henriksen, 2015).

These examples are an indication that successful or failed PPP IS implementations are multifaceted and challenging, hence more attention should be given to PPP contracting for ICT service delivery.

This study focuses on interrogating the PPP policy and the contract between the DOL and SIS to identify risk factors and risk mitigation strategies for ICT services in South Africa. It was the first ICT contract in South Africa and was the intended template for other ICT service projects to follow. The researcher focused on two important questions:

- 1) What risks concerning principal agent relationships have been specified in the contract?
- 2) What risks management strategies were identified for mitigating these risks?

The researcher investigation of the documents was conducted using content analysis and the principal agent theoretical framework. This analysis highlights the gap of risk mitigation strategies specified in the PPP contract for ICT service delivery and the actual practice of formulating contracts to address risks.



5.2 Theoretical Perspective

In the context of PPP contracts for ICT service delivery, two principal issues, namely risk management and risk mitigation, should be accounted for. Risk management is a key adherent to the successful PPP contracts for ICT service to ensure exposure to threats and failure are managed by taking appropriate action (Grimsey & Lewis, 2002). Risk mitigation strategies are crucial to contract management to avoid penalties and cost overruns during the ICT project implementation due to neglect and mismanagement (Akintoye, Beck & Hardcastle, 2003).

Risks are embedded in the life cycle of the PPP policy for ICT service delivery, which encompasses the project scope, feasibility, procurement, contract management and execution. If the various risks associated with ICT projects are not managed correctly this could lead to the failure of the project (Flyvbjerg, Bruzelius & Rothengatter, 2003). Sharing and allocation of risks has huge implications for ICT projects since it is capital intensive, therefore the transfer of skills and knowledge has a big role to play to ensure successful outcomes (HM Treasury, 2005). The question of risk arises because consequences are only partially a function of behaviours (Demski & Feltman, 1978). Government policy, politics, economic climate, competitors' action, lack of management and other factors may intervene to cause variations in outcomes. These uncertainties do not only introduce inability to plan but also cause financial risk (Flyvbjerg et al., 2003). The choice between a contract based solely on behaviour and one partially based on outcome depends on the trade-off between the cost-measuring behaviour and the cost of transferring risk to the private sector through a contract partially based on outcomes (Demski & Feltman, 1978; Shih, 2006). It is relatively inexpensive to manage behaviour, and too expensive to place risk on the private sector, hence a contract based solely on behaviour will be most efficient, since behavior can be monitored and evaluated (Shih, 2006).

In theory, there is a distinction between risk and uncertainty, in that risk is typically observed as an object that can be described in statistical terms, while uncertainty is regarded



as something that applies to circumstances in which probable outcomes and causal forces are not fully understood (Miller & Lessard, 2008). Risks and uncertainties could be used interchangeably, not only because of the vague understanding of causes, outcomes and driving forces of uncertainties that would lead to risks, but because risk is multidimensional and the unbundling of risk is necessary for clear understanding of causal forces and outcomes (Miller & Lessard, 2008). What remains are how to allocate risk between partners in a PPP contract for ICT service delivery and how these risks can be mitigated.

It has been suggested that barriers to successful implementations of ICT service contracts are not the content of the contract but, rather, management capability to manage the service provider (Hill & Hellriegel, 1994). PPPs create a new form of accountability between the public and private sector that resides primarily on trust. Where mistrust and hostility seep in, the actual procedure of the partnership may be difficult to achieve (Bennett & Iossa, 2004). Specific points should be considered, along with challenges and drawbacks associated with collaboration in partnerships, e.g.:

- Loss of control – the hopelessness to take action if contractual arrangements are not going according to the contract expectation during the life of the ICT contract;
- Multiple goals – stakeholders would potentially have their own goals which may not be related to the stated purpose of the partnership;
- Tension between autonomy and accountability – the service provided not being managed and held accountable during the different stages of the ICT service delivery process;
- Penalties on non-performance not being imposed.

5.2.1 Risk management

A risk can be defined as any event, cause or threat, whether human or abstract, that hampers the successful completion of a project according to the stipulated deadline, and/or adherence to quality and budgets that are provided for the scope of the project (HM Treasury, 2012). The effectiveness of risk management has a direct financial impact on the successful



delivery of ICT service as it will result in effective management of project cost and provide improved value for money (European Commission, 2003). Risk allocation should occur at the contract negotiation stage and risk identification transpires well before the private sector consultant or consortium and the public sector have signed any contract. The public sector can prevent many risks if they conduct the due diligence, thorough feasibility studies, preliminary risk analysis and market assessments (Berger, 2006). These interventions could estimate the risks the public sector could possibly incur and what should become the responsibility of the private sector (Berger, 2006).

It has been suggested by Delmon (2000) that the effect of risks when implementing ICT projects is normally significant, since the private sector has the perception that the public sector lacks the skill and knowledge to effectively monitor these projects. The risk arises from many sources such as the contract, policies governing the contract, politics and credibility, which impact on public sector growth and which creates uncertainty in the project life cycle. According to Grimsey & Lewis (2002), much of the risk of PPP projects comes from the complexity of the arrangement itself in terms of documentation, financing, taxation, technical details and sub agreements involved in major infrastructure ventures, while the nature of the risk changes over the duration of the projects (Chan, Yeung, Calvin, Wang & Ke, 2010).

5.3 Framework for empirical analyses of risks

The agency theory framework (Table 4) identified five major risk categories:

1. Lack of performance monitoring
2. Inappropriate vendor selection
3. Lack of competent management and skilled IS resources
4. Moral hazard
5. Lack of strategic planning.

Ngwenyama and Sullivan (2005) state that current research on IS outsourcing risks factors falls into two broad categories: 1) prescriptions for appreciating and managing risk factors



(Earl, 1996; Lacity & Hirschheim, 1995), and 2) Approaches to measuring and analysing risks and constructing specific management instruments (such as government policies and contracts) to address risks (Aubert, Dussault, Patry & Rivard, 1999; Bryson & Ngwenyama, 2000).

Policy guidelines are not specific on what could impede successful ICT/IS service delivery, which create a need to focus on definitive actions and outcomes for ICT/IS services delivery (Ngwenyama & Sullivan, 2007). A contract represents a definite deal in an actual situation and may be different from the policies from which they were created (Ngwenyama & Sullivan, 2007). The research on transaction costs specifies charging for cost drivers such as: search and information costs; bargaining costs; and policing and enforcement costs (Coase, 1937; Williamson, 1975; Williamson, 1979 as cited by Ngwenyama & Sullivan, 2007).

While contracts for ICT service frequently do not address the issues related to search costs, they can address monitoring and management costs. All stakeholders involved in the contract must agree to the terms and conditions as well as the rights it affords and the obligations it enforces (Ngwenyama & Sullivan, 2007). This is dissimilar from the independent perspective of policy guidelines. “The contract assigns and balances the actual costs of the transaction between the parties. While policy guidelines are easy to promulgate, contracts require the agreement of other parties in an arms-length transaction. Therefore, what is circulated and what is agreed upon are often very different concepts (Ngwenyama & Sullivan”, 2007:617). **Table 8** below is an expansion of **Table 4** that includes risk mitigation strategies for managing ICT/IS service delivery contracts which have been suggested by researchers who take the agency theory perspective (Ngwenyama & Sullivan, 2007:621; Logan, 2002; Bahli & Rivard, 2003; Aundhe & Mathew, 2009).



Table 8: Risk factors and risk mitigation strategies, Source: adopted from Sullivan and Ngwenyama (2005)

Risk category	Description of risk	Suggested risk management strategies
Lack of performance monitoring	<ol style="list-style-type: none"> 1. Inability to completely specify project scope and service level requirements 2. Inability to specify performance metrics 3. Lack of incentive and penalty mechanisms for inducing vendor performance 	<ol style="list-style-type: none"> 1. Service level agreements must be relevant, specific and clearly define how it will be measured. 2. Specify out-come base performance metrics rather than work-based metrics. 3. Incentive and penalty clauses are to be included.
Inappropriate vendor selection	<ol style="list-style-type: none"> 1. Lack of experience with IS implementation and technology 2. Expertise in another field of IS. 3. Vendor inaccurately claiming to be a market leader and reputable service provider 	<ol style="list-style-type: none"> 1. Hire an experienced outsourcing professional to assist with managing the contract. 2. Engage independent monitoring professionals with the skill to manage and identify risks early. 3. Ensure all cost is specified regarding transitioning services before the contract starts.
Lack of competent management and skilled Information Systems resources	<ol style="list-style-type: none"> 1. Lack of expertise for managing principle agent relationships 2. Lack of expertise for managing collaborative work processes 3. Lack of management systems for information sharing 	<ol style="list-style-type: none"> 1. Appoint an in-house business analyst to ensure project meetings and allocation of responsibility includes everyone. 2. Hire independent consultants to verify and validate functions on the contract. 3. Perform comprehensive background review of vendors and their personnel; check references.
Moral hazard	<ol style="list-style-type: none"> 1. Information asymmetry and non-disclosures resulting in inappropriate vendor selection 2. Opportunistic bargaining on the part of the vendor. 3. High cost for changing consultants (the agent replacing the principal). 	<ol style="list-style-type: none"> 1. Choose one of the options to control moral hazard in terms of the contract, behavior-based or outcomes-based. 2. Hire independent professional IS project manager to manage contract and vendor progress. 3. Ensure internal audit and external audit reviews occur monthly, quarterly.
Lack of strategic planning	<ol style="list-style-type: none"> 1. Lack of appropriate opt-out arrangements and penalties in case of vendor non-performance. 2. Lack of flexibility to amend the project plan without incurring additional costs. 3. Lack of long term human resource capability development planning. 	<ol style="list-style-type: none"> 1. Implement trade-off between cost-measuring behaviour and cost of transferring risk to the agent. 2. Hire an independent project manager to focus specifically on monitoring objects not met. 3. Train in-house business analyst to advice management of daily developments.



5.4 Research methodology

The research method for uncovering the assumptions in the empirical materials is deductive content analysis (Klein & Truex, 1995). The empirical materials used in this study consist of the PPP contract, which has a service level agreement of 51 pages and 15 annexures (see Appendix 1) as well as the PPP policy guidelines prescribed by the South African Treasury Regulations (Treasury, 2004).

Content analysis is a method of manual or automated analysis of the semantic content of documents, (e.g., newspapers, contracts and transcripts of audio or video media), to make inferences, derive in-depth understanding, or to draw conclusions about the text (Weber, 1990; Neuendorf, 2002; Ngwenyama & Sullivan, 2007:618). According to “Krippendorff, content analysis research is motivated by the search for techniques to infer from symbolic data what would be too costly, no longer possible, or too obtrusive by the use of other [research] techniques (Krippendorff, 1980:51). To conduct a content analysis on any text, the researcher creates a dictionary of search terms consisting of clusters of words or phrases that form mutually exclusive categories for analysing documents and coding the text (Weber, 1990:37). Computer supported content analysis is a particularly influential technique because of its potential to systematically analyse large volumes of data that would overwhelm individuals. Software tools also provide consistency and reliability of the coding (Rosenburg, Schnurr & Oxman, 1990; Roberts & Popping, 1993)” as cited by Ngwenyama & Sullivan, 2007:618).

The researcher used ATLAS/ TI an automated tool to conduct the content analysis of the policy and contract for two key reasons as per Ngwenyama & Sullivan, 2007).

Firstly, an automated tool enhances the management of data, and the relationship to the analytical framework, with no manual intervention. The researcher used the key words for the framework in agency theory. The risk framework consisted of 15 individual risks and 15 separate management strategies. Secondly, content analysis facilitated the process of achieving a more thorough analysis of the documents by allowing the researcher to draw



comparisons, if the contract implemented similar management strategies as suggested by the framework. One of the objectives of the researchers' analysis was to gather information about risk factors and risk management strategies embedded in the contracts.

The contract was a Microsoft Word document, which could be saved as a PDF or left in Microsoft Word.

The content analysis of the documents followed a three-stage procedure that was defined by (Ngwenyama & Sullivan, 2007).

- 1) Definition of search terms for identifying themes within the documents
- 2) Comprehensive searching of the documents for specific observations of themes related to IS outsourcing risks and effective mitigation
- 3) Developing a theoretical explanation of the empirical observation and formulating propositions to be tested.

The starting point for assembling the search terms for content analysis was the risk framework presented in Table 4 (Stage 1). From the risk framework the researcher developed an initial set of search terms to start the analysis. Searching, reading and interpreting were an iterative process.

The Stage 2 activities are as follows:

- 1) The documents were loaded without modification into ATLAS/TI.
- 2) The researcher searched the documents for keywords .
- 3) The researcher coded word grouping, because it was a single contract, the risk type was consistent and easily identified.
- 4) The coded sentences were then read to determine how well they reflected the risk factors involved.
- 5) Once coding was completed and text extracts were arranged, it was possible to define what risk factors and management strategies were identified and specified in the contract.



To support content analysis, ATLAS/TI was used to simplify the data analysis. Using a five-step scale, as designed by Ngwenyama & Sullivan (2007); the researcher rated each risk category in the contract against each risk category of the framework as:

- ‘Supported’ indicated some support of the risk management strategies.
- ‘Fully supported’ indicated that all the risk management strategies were completely presented.
- ‘Not supported’ indicated that the risk management strategies for that category were specified in the contract but not supported.
- ‘Partially supported’, Alternatively, if less than half of the risk management strategies for a particular category were specified in the contract.
- ‘Adequately supported’ was assigned if more than half of the risk management strategies were thoroughly specified.

5.5 Contract background

The PPP contract between the DOL and SIS was the first of its kind involving the South African government and therefore represented a significant milestone in terms of the way in which ICT was managed within the public sector. In December 2002 the DOL engaged in a ten-year contract with SIS for the provision of all ICT services. Unlike traditional outsourcing relationships, the PPP contract demonstrated a desire on the part of government to develop strategic alliances with private sector partners and to utilise these alliances in order to internalise necessary ICT infrastructure and expertise. The significance of the arrangement meant that the DOL exerted great effort in procuring a service provider who would best meet the needs of the Department and would assist in bringing innovation to the Department’s general strategies and business direction. At the time of contracting, the Department acknowledged that engagement in such a contract involved a large investment in ICT as well as reliance on external information management expertise (particularly as the Department transferred all internal ICT capacity with a view to achieving skills transfer in the long term). It was agreed, however, that such up-front investment of private finance would provide numerous long-term benefits to the Department.



At the time of contracting, the Department's vision was to strive for a labour market which would be favourable to economic growth, investment and employment creation and which would be characterised by rising skills, equity, sound labour relations, respect for employment standards and worker rights. However, the Department identified a number of key challenges within the ICT Department that represented obstacles to the achievement of this vision. A list of the main challenges leading to the PPP is as follows:

1. High turnover of public sector ICT staff;
2. Requirement for integration of labour market services and systems;
3. Automation of services towards e-government initiatives;
4. Attaining ICT objectives against budgetary constraints;
5. Need to partner with a private sector for improving ICT capability;
6. Leveraging of expertise and specialist knowledge, and exploiting international standards and best practice.

The objectives and requirements that defined the PPP contract were intended to address these critical challenges, whilst also acting as a means of measuring performance during and at the conclusion of the contract.

5.6 Empirical findings

The following section of the paper focuses on descriptions of risks and risk management strategies that have or have not been specified in the PPP policy or contract.

A detailed discussion will follow of each risk specification and risk management strategy, in each of the subsequent sections of the paper. The empirical analysis yielded the following empirical observations concerning description of risks factors (see Table 9) and risk mitigation strategies (see Table 10).

None of the principal-agent risks articulated in agency theory were specified in the PPP policy or the contract. The PPP policy did specify 18 risk categories concerning financial exposure but these were not factored into the contract (See Appendix 8).



Table 9: Empirical observations concerning PPP policy and PPP contract specifications, Source adopted from: Sullivan and Ngwenyama (2005)

Risk category	Description of risks	Empirical observations
Lack of performance monitoring	<ol style="list-style-type: none"> 1. Inability to completely specify project scope and service level requirements 2. Inability to specify performance metrics 3. Lack of incentive and penalty mechanisms for inducing vendor performance 	<p>Not supported</p> <p>Not supported</p> <p>Not supported</p>
Inappropriate vendor selection	<ol style="list-style-type: none"> 1. Lack of experience with IS implementation and technology 2. Expertise in another field of IS 3. Vendor inaccurately claiming to be a market leader and reputable service provider 	<p>Not supported</p> <p>Not supported</p> <p>Not supported</p>
Lack of competent management and skilled Information Systems resources	<ol style="list-style-type: none"> 1. Lack of expertise for managing principal agent relationships 2. Lack of expertise for managing collaborative work processes 3. Lack of management systems for information sharing 	<p>Not supported</p> <p>Not supported</p> <p>Not supported</p>
Moral hazard	<ol style="list-style-type: none"> 1. Information asymmetry and non-disclosures resulting in inappropriate vendor selection 2. Opportunistic bargaining on the part of the vendor 3. High cost for changing consultants (principal to replace agent) in the partnership 	<p>Not supported</p> <p>Not supported</p> <p>Not supported</p>
Lack of strategic planning	<ol style="list-style-type: none"> 1. Lack of appropriate opt-out arrangements and penalties in case of vendor non-performance 2. Lack of flexibility to amend the project plan without incurring additional costs 3. Lack of long term human resource capability development planning 	<p>Not supported</p> <p>Not supported</p> <p>Not supported</p>

Lack of performance monitoring: Measuring a consultant’s performance is complex, based on the many challenges that can be encountered. Performance monitoring affects all aspects of contractual engagements and is often a determinant of the successful outcome of a PPP contract. Challenges with managing the private sector performance stem from the inability to completely specify the scope of work, and failure to apply penalties based on performance as the timelines allowed. The CIO of the DOL (See Appendix 3; DOC=01) mentioned that PPP contract was written to favour the private sector but allowed for early termination see clause 20.1 (Refer to Appendix 1). Therefore if management structures had existed to monitor the private sector’s performance an early termination could have been enforced.



The contract stipulated that in the event that the Department on reasonable grounds believes that the Contractor is not meeting its performance management obligations in terms of this Agreement, the Parties agree that an independent third party auditor of the Department's choice, consented to by the Contractor, and which consent shall not unreasonably be withheld, will be provided reasonable opportunity and access to audit the Contractor's quality management system and its use in the provision of the Services on the Department's behalf. This right shall include the right to examine or inspect works or activities on- or off-site (Refer to Appendix 1, Annexure 1 -Department's Business Objectives).

Inappropriate vendor selection: In practice, the DOL would seem to have managed this evaluation area comprehensively and effectively. Unfortunately the supplier that was selected, Siemens, was selected as the preferred candidate based on additional superior criteria, namely its more commercial exposure as opposed to technical orientation. The fact that the agent can mislead the public sector with regard to their professional skills allows the agent to act in an iniquitous manner after the contract is signed. The agent is normally a huge private consortium and the public sector is led to believe that they possess hidden knowledge, which makes the public sector question their own capability and therefore fail to impose penalties when they should. The challenges that are created for the public sector, if they do not impose penalties from the beginning, give the private sector confirmation that they are dealing with a weak partner. This allows the private sector to renege on certain aspects of the contract such as having fewer resources to do the work, which will lead to under- performance and overbilling. This has led to many questions why *EOH Holdings Limited* is a South African based ICT service group who was not part of the tendering process but ended up performing work on behalf of Siemens. What later emerged was that EOH had taken over Siemens. This type of manipulation undermines competitive bidding/tendering; more attention should be given to the selection and criteria to avoid the private sector's commercial exposure to be the influencing factor to secure projects. A real danger that exists in selecting an agent is to allow the competitive tendering to become a routine process rather than a motivational platform for enhancing the evaluation.



Lack of competent management and skilled IS resources: The DOL transferred all their staff to Siemens; Clause 6 and Annexure 11 of the service agreement made provision for this transfer (See Appendix 1). This, however, put them in a position of weakness, giving Siemens full control of the staff, which, the researcher later observed, was detrimental to the project governance due to attrition. The DOL staff had little commercial and market expertise and, as staff turnover occurred, continuity in capability was lost and expertise was eroded in the DOL from the time SIS/ EOH had replaced the staff with their own consultants. This is a high risk factor since core in-house capability is eroded when agents take control and responsibility of a project. Siemens tried to rationalise this as part of strategic relationships, but this eroded the DOL skills, hence at the end of the contract there were no IS professionals that could maintain the project.

Moral hazard: This is a strategic behaviour that refers to the endogenous variables of the private sector, which cannot be observed by the public sector. The lack of skilled management is what allows the private sector to reduce their input level. This may influence project cost and quality, leading to moral hazard. Moral hazard in renegotiations of PPP projects has not only led to the loss of social surplus, but also minimised the expected benefits and outcomes of the intended contract for both parties in the long run. Government regulations, lack of public supervision and incentive mechanisms were factors influencing the private sector's strategic engagement with the public sector, to take an opportunistic bargaining view instead of a cooperative strategy when entering into a contract. There are two kinds of opportunism that affect aspects of a contractual relationship, namely 'adverse selection' and 'moral hazard.' The persistent problem of information asymmetry that occurred is based on the fact that the private sector had more information about the object of exchange, (e.g., the product or the service). The effects of structural incompleteness should be assessed to find potential adjustment mechanisms, in one way by an adequate system of incentives and in another by a system of control aimed at forging efficient and trusting relationships. This is as a direct result of the challenges with skills retention strategies for IS in the public sector; competent management to ensure the PPP contract is legally sound; and that the contractual terms can be enforced during the life cycle of the contract.



Lack of strategic planning: The public sector cannot anticipate every circumstance or conflict of interest that a PPP contract can present; hence providing guidelines to clarify the goals and values could be the first line of defense against preventable risk in the future. Strategy risks are quite different from preventable risks because they are not fundamentally adverse. A strategy, which thrives on high returns generally, requires organisations to take on substantial risks, and managing those risks is an important factor in capturing the potential benefits. Strategy risks cannot be managed through a rules-based control model; instead a risk-management system is required to decrease the likelihood that the assumed risks actually materialise. Systems like these should not stop the private sector from undertaking risk adverse opportunities; to the contrary, it would enable them to take on higher-risk, higher-reward ventures than competitors with less effective risk management could. Some risks arise from events outside the public and private sector control and are beyond their influence or control. Sources of these risks include natural and political disasters and major macro-economic shifts. The public sector should adapt their risk-management processes to these different categories. While a compliance-based approach is effective for managing preventable risks, it is inadequate for strategy risks or external risks, which require a fundamentally different approach, based on open and explicit risk discussions. That, however, is easier said than done; extensive behavioural and organisational research has shown that individuals have strong cognitive biases that discourage them from thinking about and discussing risk until it is too late. To be sure, the public sector should have a level of tolerance for defects or errors that would not cause major damage to the IS platform. In general, the public sector should seek to eliminate these risks since they get no strategic benefits from taking such risk upon themselves to manage. These risk factors are best managed through active prevention: monitoring operational processes and guiding people's behaviours and decisions toward desired standards. To facilitate the discussion, each risk management strategy has been allocated (in Table 10) with an empirical observation, fully supported, 'not supported', 'partially supported' or 'adequately supported'.



Table 10: Empirical observations of Risk Management Strategies, Source: adopted from Sullivan and Ngwenyama (2005)

Risk category	Suggested risk management strategy	Empirical observations
Lack of performance monitoring	<ol style="list-style-type: none"> 1. Service level agreements must be relevant, specific and clearly defined as to how it will be measured. 2. Specify outcome-based performance metrics rather than work-based metrics. 3. Incentive and penalty clauses must be included. 	<p>Not supported</p> <p>Not supported</p> <p>Not supported</p>
Inappropriate vendor selection	<ol style="list-style-type: none"> 1. Hire an independent IT professional to assist with managing the contract. 2. Engage independent monitoring professionals with the skill to manage and identify risks early. 3. Ensure all cost is specified regarding transitioning services before the contract starts. 	<p>Not supported</p> <p>Not supported</p> <p>Not supported</p>
Lack of competent management and skilled Information Systems resources	<ol style="list-style-type: none"> 1. Appoint an in-house business analyst to ensure project meetings and allocation of responsibility includes everyone. 2. Hire independent consultants to verify and validate functions on the contract. 3. Perform comprehensive background review of vendors and their personnel; check references. 	<p>Not supported</p> <p>Not supported</p> <p>Not supported</p>
Moral hazard	<ol style="list-style-type: none"> 1. Choose one of the options to control moral hazard in terms of the contract, behavior-based or outcomes-based. 2. Hire an independent professional IS project manager to manage the contract and vendor progress. 3. Ensure internal audit and external audit reviews monthly and quarterly. 	<p>Not supported</p> <p>Not supported</p> <p>Partially supported</p>
Lack of strategic planning	<ol style="list-style-type: none"> 1. Implement trade-off between cost-measuring behaviour and cost of transferring risk to the agent. 2. Hire an independent project manager to focus specifically on monitoring objects not met. 3. Train an in-house business analyst to advice management of daily developments. 	<p>Not supported</p> <p>Not supported</p> <p>Not supported</p>



Lack of performance monitoring: The role of monitoring the contract is similar to the role performed by external auditors, though the former activity might involve a little less discretion. The main difficulties of monitoring are related to managing service quality, resolving contractual disputes and stakeholder complaints, performance incentives, participating in potential renegotiation, addressing early termination of contracts, overseeing transfer of assets, and specifying terms for the renewal of the PPP contract. The PPP contract should specify resources to carry out the PPP monitoring and be specific on how the monitoring will be performed, including: 1) all reporting procedures, 2) the amount and circumstances under which penalties can be applied, 3) procedures in the event of renegotiation, and 4) quality of service supervision and, particularly, the handling of complaints. The public discussion of PPP contract performance can be an effective tool for highlighting the private sector's indiscretions so that performance results should be known publicly on a regular basis. Contract monitoring is often absent in the tendering documents, despite its significance to PPP contract success.

Inappropriate vendor selection: This represents the biggest challenge. Based on the risk management strategies suggested, having an independent consultant to assist with the creation and management of the contract should enable the public sector to make the correct selection decisions. Ensuring independent audit verifications of the vendor to validate the experience and service delivery history is critical. The vendors' background in terms of technical experience should be tested – a vendor should not be appointed on commercial experience or political affiliation, but on the correct criteria to deliver on the scope of work that is required. This includes signing a contract that is not open-ended and sketchy and ensuring that feasibility studies provided by the private sector are verified, leaving no room for cost increments that have not been part of the contractual agreement. In the DOL case, this risk area was not mitigated by a comprehensive evaluation of 'partnership capability' using reference sites, site visits, and involving a range of assessors, including user managers.



Lack of competent management and skilled Information systems resources: The four faces of the IT function 1) governance, 2) interrogation and delivery of IS requirements, 3) maintaining the technical domain and 4) managing private consultants should be implemented to try to mitigate risks related to competence and skilled management, staff authority, delivery of IS requirements, maintaining the technical environment and managing external stakeholders with their basic skills. These are leadership and governance; relationship building and business systems thinking (business ‘face’); technical architecture and making technology work (technical ‘face’); and governance, contract facilitation, contract monitoring and vendor development. The DOL failed in the retention of skills since they transferred all their staff to SIS as part of the contract. This was a strategic decision in the hope that the IT resources would be up skilled under the guidance and leadership of SIS and acquire the expertise to manage the new IS platform after the implementation. Important risk-mitigating features would have been retention of in-house project management skills, and of control over the project by a business analyst dedicated to monitoring the project and Siemens output, instead of allowing Siemens to manage the process.

Moral Hazard: At the time the public sector (principal) had appointed the private sector (agent), the task should have been performed to the required standards of the public sector. Post-contractual agency challenges of moral hazard may arise in situations where the public sector does not have the expertise to directly observe the private sectors actions. This is what allows the self-interested agents to pursue their own goals at the expense of the principal. The hiring of internal and external auditors, as well as an independent project manager, is critical to monitor opportunistic habits of the agent and to ensure this does not hamper the success of the project. The difficulty the principal encounters to monitor the agent is what results in moral hazard and opportunistic bargaining, allowing the agent to produce poor quality outcomes. The DOL should never have allowed self-interest to creep in and that could have been prevented if the agent was monitored closely. The DOL has two basic options in seeking to control moral hazard; the first option which is behaviour based



which will allow them to monitor the agent behaviour and secondly reward or penalise the agent for not behaving in line with ethical and moral standards of delivering results aligned with the contract standards. The basic idea is to decrease information asymmetry between the agent and the principal. Monitoring behaviour is likely to inform the principal about the agent's behaviour and could curb agent opportunism since the agent would realise that the principal cannot so easily be deceived. Behaviour-based monitoring could be a costly exercise or too tedious for it to add value and hence 'outcome-based' could be a logic choice. 'Outcome-based' compensates the agent based on certain achievements and milestones. Outcome-based contracts are considered the more effective monitoring method in curbing the agent's opportunism. This type of contract has the likelihood to reduce goal conflict, and is a motivator for the agent to pursue outcomes that are incentive-compatible with the principal's goals.

Lack of Strategic Planning: In light of the findings from this review, it was concluded that it was absolutely vital to ensure that an ICT strategy was put in place in order to transform the way in which ICT/IS services were provided in going forward. The ICT/IS strategy would need to address the following requirements: The DOL Departments requires a strategic ICT partner to enable current and future service delivery. ICT /IS must be able to define and implement a long-term architectural roadmap aligned to business requirements. Projects must be delivered in a predictable and reliable way (on time and budget). ICT must provide a stable and cost-effective infrastructure and network environment. Secondly, competent management is to channel communication and proficient IT resources will go a long way in meeting the DOL's business requirement. As the Department's PPP contract with SIS involved elements of Design, Build Finance, Operate and Transfer (DBFOT), it is evident that a high degree of risk was involved. This shared risk and benefit model requires careful management that starts from understanding the purpose of PPP models and the benefits that might be derived. The empirical findings suggest a need to elaborate on the risk factors and risk mitigation strategies



5.7 Theoretical implications of the empirical observations

The empirical analysis has revealed that the DOL followed the PPP project cycle that was mandated by the legislative framework and signed off by the treasury for successful PPP contracting. Bear in mind this was a project for ICT/IS service delivery and should not have had a basic PPP contract but one that would cater for ICT/IS services. It appears that the formalities and management of the PPP contract was clearly understood by the principal (DOL) and the agent (SIS) but the facts of ICT/IS was overlooked. Evidence of the outcome of the contract suggests that it lacked the focus of an ICT/ IS project and has been dubbed an epic failure by the media after interviews with a number of project sponsors. The fact that neither the PPP policy nor the contract had specified any of the risks or risk mitigation strategies suggested by agency theory indicates that it would be unlikely to manage the outcome of the PPP contract for ICT/IS services successfully. The details of the empirical observations on the agency theory framework outlined (Refer to Table 4) suggested the following propositions relating to risks and risk mitigation.

PI: When risks are not specified in the PPP policy or the PPP contract, the principal will have challenges monitoring the agent's performance; the agent will be inclined to shirk on contractual deliverables.

The PPP contract for ICT/IS with Siemens failed to achieve key objectives such as improving the DOL's "IT capability, leverage expertise and special knowledge, and exploiting international standards and best practice." It also failed to "integrate labour market services and systems to offer better services" and to "achieve maximum IT benefits and objectives against budgetary constraints" (Furter, 2012). This posed a huge risk to the success of the PPP contract, risks that were not specified or considered when the contract was drawn up.

Systematic risk management has proven that risks can be detected early and provides encouragement for PPP stakeholders to identify, analyse, quantify and respond to risks in the early stages of a project, as well as allow them to take measures to introduce risk mitigation strategies (Akbiyikli & Eaton, 2004). Risk allocation should be managed in the most cost-effective manner, especially when related to implementation and service delivery



– it has been recognised that the private sector is reluctant to absorb certain risk from the public sector such as inflation rate, exchange rate, interest rate fluctuations and delays in project approvals (Roumboutsos & Anagnostopoulos, 2008). Therefore, based on the PPP manual (Treasury, 2004), PPP contracts follow a rigorous methodology set out by the PPP Regulatory unit to ensure successful outcome of the contract. Public Private Partnership contracting in South African PPP unit has adopted a PPP methodology that was informed by the United Kingdom’s Private Finance initiative (PFI) and has to comply with following the Legislative and Regulatory framework as well as all phases of Treasury approval (Treasury, 2004).

It has become clear that a PPP contract that complies with the legislative framework and has gone through extensive treasury approval as indicated in the literature, does not necessarily constitute a successful contract. A PPP contract without the risks specified by agency theory is vague and open to interpretation (Sharma, 1997; Dewatripont & Legros, 2005). PPP contracts require extensive monitoring and management and, if monitoring is absent, the chance of failure becomes greater. This has become clear from the empirical evidence.

The CIO of the Department of Labour state that “the contract was favourable to Siemens, and that Siemens was not the right service provider. This was a global company that specialised in providing machines and boxes, and not systems development, the contract was for a long period, ten years being too long in the IT sphere, being such a dynamic and changing environment”. Although the contract made provision for some reviewing, it was generally skewed (Godi, 2013). The argument is that such contract should co-align the preferences of agents with those of the principal because the rewards for both depend on the same actions and, therefore, the conflicts of self-interest between principal and agent could be reduced. The proposition put forth is:

P2: If an inappropriate vendor is selected that lack capabilities to adequately engage with all the stakeholders on the project, the contract is likely to fail.



The proposition derived from the empirical analysis is corroborated in the content of the literature. Several researchers have shown that poor vendor selection practice, misperceptions of vendor capabilities, together with exaggerated expectations as a result of vendor promises have been the source of lack of success in IS contracts (Lacity & Hirschheim, 1993; Michell & Fitzgerald, 1997). A contract written with the assumption that a principal believes the agent possesses the requisite skills and experience to fulfil the contract requirements, without verification, is another pitfall (Ngwenyama & Sullivan, 2007). Trusting an agent based on reputation is disastrous and the contract is not an appropriate for addressing risks; these issues are usually resolved in the proposal phase (Ngwenyama & Sullivan, 2007).

According to Marques and Berg (2011), as ex-post opportunism and renegotiations represent major failures of PPP contracts, the public sector should try to avoid this contingency by ensuring the following procedure is accomplished:

1. allocating risks to appropriate parties,
2. guaranteeing the economic and financial equilibrium only for the contingent risks borne by the public sector;
3. assigning payment based on outputs and performance;
4. assuring that the winning tender is fulfilled when the contract is signed;
5. constraining the possibility of bargaining after the public tender and contract signature,
6. clarifying the terms of contract termination.

Enforcing penalties in line with the contract arrangement could prevent underperformance, since the private sector will be more cautious if the contractual obligations are enforced as the contract unfolds. Contract deliverables should not be left to chance or discussions late, they should be addressed immediately – therefore the requirement for management with appropriate skills to manage conflict and have in-depth knowledge regarding the deliverables of the contract. Management inefficiencies will almost invariably challenge the successful project outcomes. Agency theory is concerned with resolving two



problems that can occur in agency relationships. The first is the *agency problem* that arises when; the desires or goals of the principal and agent conflict, and it is difficult or expensive for the principal to verify what the agent is actually doing.

The problem this represents is that the principal cannot verify that the agent has behaved appropriately. This leads to the question of risk sharing. When the principal and the agent have different attitudes toward risk, they might prefer different actions because of the different risk preferences (Eisenhardt, 1989). The proposition suggested is:

P3: When there is a lack of capacity planning and resource expertise, there will be challenges with skills transfer and knowledge management.

The empirical analysis revealed that the DOL entered into the contract with SIS and the requirements from the PPP contract were clustered into five key areas of delivery: initial services; improvement services; operational services; additional services; and exit and transfer services and skilled IS resources; as discussed in the case. It became evident after the ten-year period of the contract that SIS had reneged on some of the deliverables of these services. The biggest let-down of the PPP contract was the transfer of services and skilled IS resources. SIS had eroded all the DOL IS staff by excluding them during the implementation process; this was part of what resulted in high attrition of the DOL resources. The required guidelines set out in the PPP contract were to ensure that SIS offered services based on expertise; parting with the expertise would mean that their services were not required anymore and that could put them out of business or back in the market earning a minimum wage instead of extra ordinary consulting fees. Hence agents will not provide skills and knowledge transfer in good faith the will hold back on sharing information.

The subject of skills retention for IS implementations through contracting with the private sector has received little attention (Lacity & Willcocks, 2000) A common approach, particularly noticeable in the UK public sector, has been to retain a limited number of staff in a 'residual' function, carrying out IT governance contractual monitoring and



responsibilities relating to liaising with consultants (Fitzgerald & Willcocks, 1994). More recently, other research has pointed to more in-depth capabilities and skills challenges for complex ERP implementation where private consultants are used on a substantial basis ((Fitzgerald & Willcocks, 1994; Rockart, Earl & Ross, 1996). Research by Feeny & Willcocks, (1998) states that the need to mitigate risks should be staffing the four faces of the IT function 1) governance, 2) interrogation and delivery of IS requirements, 3) maintaining the technical domain and 4) managing private consultants with nine capabilities and their underlying skills. These skills are leadership and governance challenges; relationship building and business systems thinking; technical architecture and making technology operational; and informed contract facilitation, contract monitoring and consultant scrutiny. According to Greiling (2009), consultants are essentially motivated by self-interest based on rationality, but the main focus is how the agent can be forced to act in accordance with the principal which can considerably reduce the risk of the agent underperforming. The proposition suggested is as follow:

***P4:** When an agent is not held accountable, moral hazard will pose a risk to the objectives of the contract.*

Moral hazard is one of the major risks experienced with PPP contracting for ICT/IS service delivery. Moral hazard leads to opportunistic behaviour by the consultants and is defined as “self-interest seeking with guile” leading to shirking, lying or other moral hazards. (Ngwenyama & Bryson, 1999). Moral hazard leads to making unrealistic or false representations about their capabilities in the proposal phases of the process, and then shirking under the terms of the contract once the contract is delivered. Moral hazard can have an impact on the contract at any time during the implementation phase or any other phase. The DOL include a termination clause 19 in the original contract document which specifies that (the consultant) will cooperate with the government to assist with the logical transfer of the services, functions and processes provided. The support specified in this section includes software and service migration, as well as turning over all relevant documentation, and dealing with questions from service providers or the public sector. Inclusion of penalties and incentives in the contract is important to align the interests of



consultants with that of the principal (Ngwenyama & Sullivan, 2007). The PPP contract between the DOL and SIS included penalties; but did not include incentives for improved performance or performance that consistently exceeded the specified service levels. It is therefore imperative to include in the contract as part of the penalty clause the importance of managing the behavioural, ethical, trust and mediation issues, to ensure that moral hazard can be addressed before it eradicates value. Abstract risks such as opportunism are difficult to articulate in a contract due to the nature of the risk.

P5: When public sector managers do not have a strategic plan in place, there will be challenges with reviewing and managing ICT/IS implementation as they develop.

The propositions above took into account that the lack of planning even basic planning and monitoring will impact the success of any contractual arrangement. The continuous review of the strategic plan will allow the project plan to be amended, adapted and adjusted in ways that would be acceptable to the ICT/IS implementation and the partnerships allow for early conflict resolution. Strategic planning is a methodology intended to produce results (Hill & Lynn, 2009; Mulgan, 2009) it goes hand in hand with creating wise judgment and can enhance public value. It is fundamental to project implementations, contract management, performance management and challenges developing skills. Strategic planning is about taking the big picture into account and how to extrapolate the best value from partnerships.



5.8 Conclusion

This study represents an empirical analysis of how lack of risk management impacted the monitoring of this PPP contract and ultimately challenged the success of the project. The empirical analysis revealed that the contract dealt with all the legislative requirements, as stipulated by the constitution, necessary for the execution of a successful PPP contract. However, the lack of risk and risk management strategies being specified was neglected. Challenges relating to management competency to effectively manage risks led to the actual downfall of the project. The empirical analysis indicated that if effective risk management strategies had been implemented, it could have had an impact on the contract's success.

According to the principles of agency theory, a successful project is probably one where the principal is able to aggressively monitor the agent's behaviour. The link between evaluating performance of the principal and the agent is straightforward, given that the agent is contracted to perform, hence underperformance by the agent should be managed by the principal and the agent should be penalised on compensation (Eisenhardt, 1985; 1989).

The theoretical contribution is to address goal conflict between the public and private sector for ICT service delivery. It is assumed that much of organisational life is partly based on people's self-interest, opportunism and goal conflict. Agency theory draws specific attention to asymmetries of information. An important contribution of agency theory is risk implication, since organisations are rumoured to have uncertain futures. Koelble (1996) states that as a framework, agency theory has provided "interesting new ways of thinking", has had "considerable value in sorting out and clarifying relationships of power" as well as contributing to the "understanding of existing governance structures" (Ferris & Graddy, 1998).

The practical contribution for ICT service delivery is providing risk management strategies to effectively manage the private sector's performance. Risk management strategies are necessary to ensure risks are identified from the onset, which could facilitate open and honest communication and mitigation practices. Monitoring and assessing risks associated



with PPP, contracting is an integral part of good business practice and sound contract management. By automating contract writing, contract changes can be tracked to ensure adherence to legal requirements while retaining flexibility to draft contracts that meet varying business requirements. It allows flexibility with the contract design, authoring while accelerating the approval process and ensuring that none of the crucial elements of a watertight contract is over-looked. Relationship management is the most important part of the project life cycle and, therefore, the requirement of an impartial intervener such as the external auditors is critical to act as an intermediary and ensure the project is kept on track by providing the external auditors' input at key stages of the project. The external auditors can assist with identifying issues with information asymmetry where the agent (who is in most cases the more knowledgeable partner) has the potential to underperform and engage in opportunistic bargaining. Management training programmes could deal with competence challenges and ensure it address the day-to-day managing of the private sector. Retention strategies of expert IS resources is important contributory factor to the successful delivery of PPP contracts.

The researcher, using the results of this research, hopes to demonstrate the positive contribution proactive management could contribute to prevent PPP contracts for ICT/IS service failing, by introducing effective risk management strategies. The PPP unit indicated that long term PPP ICT projects were a major risk because of the rapid changes in technology. The limitation of this study was that this was the first PPP contract for ICT/IS service delivery in South Africa and lacked a basis of comparison. Further researcher is encouraged using lessons learnt from Europe, North America and Australia.



CHAPTER 6: *Study 2: An interrogation into the management practices of the DOL project using interviews with key informants and PPP project meeting minutes*

Abstract

This study is aimed at examining various stakeholders' views through an interview process and the analysis of the minutes of meetings relating to the PPP contract for ICT service delivery. The agency theory risk management framework was used as a guide to interview the various stakeholders. The interviews assisted with extending and refining the risk management framework for PPP contracts for ICT service delivery. Content analysis was used with ATLAS/ TI to analyse interviews and minutes of meetings, which corroborate the risks that were identified previously as shortcomings in PPP contracting. These risks are widely acknowledged in literature but have not been specified or considered by the interviewees. These risks need to be highlighted in PPP contracting for ICT service delivery to protect the public sector from the more knowledgeable private sector in the future. The study contributes to the transparency and governance to effectively manage risk and address management competency issues for ICT service delivery.

Keywords: Interviews, Minutes of meetings, Risk Management



6.1 Introduction

In this study, the researcher will examine the previously defined risk factors from a governance, transparency and accountability perspective, by conducting interviews and examining the minutes of the meetings pertaining to the PPP contracts for ICT/IS service delivery. More specifically as stated in Table 2 above this study interrogates the question:

What governance structures exist for managing PPP contracts for ICT service delivery in RSA?

The aim of this paper is to assemble, through an interview process and minutes of meetings, the views of internal and external stakeholders and how these risk factors impact the project success. Since the late 1990s, PPP contracting in South Africa has proven to have a long history of conflict, but became the face of development for infrastructure reform (Fourie & Burger, 2000). In 1994, economic reform became the basic principal for starting collaborative partnerships between the public and private sector in an attempt to establish cooperative relationships. It was also a method to further common goals of market-driven growth aligned with 21st century infrastructure by improving legacy ICT services.

The collaboration of the private sector was required to bridge the inefficiency gap that the public sector had suffered from for decades, since they had always been viewed as the custodians of expertise and skill in apartheid days (Fourie & Burger, 2000; Brinkhoff & Brinkhoff, 2011). The significant size of this PPP contract for ICT service delivery has raised concern with actual management of the project and particularly with issues of risk mitigation. ICT service delivery failures have specifically emerged as a challenge because of the bad publicity and results that IS implementations have received in business and academic literature (Dempsey, 1999; Lacity & Hirschheim, 1993; Willcocks, Lacity & Kern, 1999; Ngwenyama & Sullivan, 2005).

The reason for conducting interviews and reviewing minutes of meetings of stakeholders is based on the role the stakeholders the played managing the ICT /IS project. From the



analysis the researcher intends to reveal what the limitations of the interviewees were in managing the ICT project, as well as what their views on risk management were. Using the risk framework (see Table 4), the researcher ascertained, through an interview process and minutes of meetings, the risk and efficiency challenges stakeholders experienced and which affected the success of the ICT/IS project. The researcher used content analysis to analyse interviews and minutes of meetings of internal and external stakeholders. This is defined by Weber (1990); Neuendorf, (2002); and Ngwenyama and Sullivan (2005) as a method of manual and automated analysis of the semantic content of documents, (e.g., transcripts, minutes of meetings, interviews), to make inferences, derive in-depth understanding, or to draw conclusions about the text.

6.2 Theoretical Perspective

A definition often used is that PPPs are “. . . cooperation of some sort of durability between public and private actors in which they jointly enter into agreements for service delivery, share risks, train resources which are connected with the contract” van Ham & Koppenjan, (2001:598). This particular definition about PPPs is all encompassing, which allows for variances across parameters such as time, closeness of co-operation, types of products/services, cost, complexity of the service, levels of institutionalisation, as well as the number and type of actors involved. Furthermore, it does not specify whether a partnership has to rest on a legally binding contract or not in order for it to be a partnership. It is all these initial challenges that create the questions around risks, since the definition might be all-encompassing but not necessarily documented in the PPP contract for ICT services. Governance, transparency and accountability are key risks relating to individuals managing organisations.

There has been a great deal of literature developing around governance; accountability and transparency not being the focus of PPP contracting; and increasing the challenges to managing risk factors. Governance can be broadly defined as the exercise of political, economic and administrative authority to manage countries’ affairs as well as to how stakeholders interact with each other to influence outcomes (Johnston & Gudergan, 2007).



Thus, governance has an impact on the development of the contract – the legal aspects as well as on the behavioural, ethical, mediation and trust aspects that could have a major effect on the success of the contract (Williamson, 2008). Mulgan (2003) defines accountability as “a *relationship of social interaction and exchange involving complementary rights on the part of the account-holder and obligations on the part of the accountor*”. Hodge & Greve (2011) state that transparency comes in many guises in PPPs and, whilst in a technical sense more information is better in some instances, this can sometimes have clear conflict with the political need to encourage projects, which may be shunned or ignored by government critics. It is, therefore, important to ensure that a PPP contract covers both technical elements, and human elements such as behaviour and arbitration, especially in the case of disagreements to manage risks.

6.2.1 Governance, accountability and transparency

The overall evidence from PPP research has proven that there is a deficiency in the way PPPs are developed and mediated over time from a governance perspective (Williamson, 2008; Johnston & Gudergan, 2007). This leads to the fact that attention should be given to the social aspects of contract within PPPs for ICT/IS service delivery and how these they can be incorporated within a broader and potentially more meaningful governance system. Considering these issues, governments will have to have more foresight, avoid political behaviour when executing PPPs, and behave as ethical leaders exhibiting moral responsibility and ownership of the project along with the private sector. This is by government standards a huge request but one that is necessary in this very diverse collaborative partnership (Johnston & Gudergan, 2007).

If government cannot meet the objectives in terms of economic infrastructure growth in the public interest by using their own resources, and decides to enter into a partnership, then there are moral obligations about behaviour. As Bovaird (2004) suggests, when public sector organisations are not in a position to use their own resources, or do not have such skills to implement public policy, then a partnership arrangement that aims to effect



cooperative benefit may be the answer. An important opinion that should be considered is that mutual responsibility of the partners should be taken into account to achieve the objectives of the project and should be of paramount concern. PPP needs to be formulated with formal legal and behavioural requirements to find solution to moral hazards that seem to be the norm rather than the exception when the public and private sector are in a partnership (Bovaird, 2004).

Accountability can also be considered as a *forceful process* in which agents have to provide explanations to principals. Bovens (2007) elaborates on the definition of accountability: “*a relationship between an actor and a forum, in which the actor has an obligation to explain and to justify his or her conduct, the forum can pose questions and pass judgment, and the actor may face consequences*”. Bovens also provides three essential mechanisms for accountability:

1. the agent should be obliged to *inform* the audit committee about their conduct,
2. there should be an opportunity for the committee to *debate* with the agent about the conduct as well as an opportunity for the agent to explain and justify the conduct in the course of the debate, and
3. both parties should know that the committee is able not only to pass *judgment* but also to present the agent with certain *penalties*. Moreover, accountability is definitely retrospective or ‘*ex post*’ in nature, as opposed to ‘*ex ante*’ control. Accountability is a golden concept that cannot be disputed; it has come to stand as a universal term for any mechanism that makes powerful institutions responsive to their particular public and has become an icon for good governance, first in the United States of America (USA) but increasingly also in the European Union (EU) (Mulgan, 2003; Bovens, 2007; Partnerships, 2008).

Accountability has become less valuable for analytical purposes and today resembles a wastebasket filled with good intentions, loosely defined concepts and vague images of good governance. It is one of the suggestive political words that can be used to cover up a long-winded argument, to conjure up an image of trustworthiness, fidelity and justice, or hold



critics at a distance; therefore, for anyone reflecting on accountability, it is impossible to disregard these strong suggestive hints (Bovens, 2007).

Transparency is present at different stages of a PPP development. Transparency is understood as disclosure of information and accessibility of information, especially present in the pre-contractual phase. Hodge & Greve (2011) suggest that the British government should follow the lead of Denmark that introduced “local planning initiative”, necessary by law, which calls for the opinion and evidence from citizens and organisations for a set period to submit their opinions on PPP projects. The project plans are made available to citizens to examine, while the accessibility of documents concerns the general plans, not the financial proposals, submitted by the private sector contenders for the project. The fact that the competitive tendering process is guided by rules, which is supposed to work against corruption, should make the financial status available in order for inflated cost to be recognised before projects are allocated.

The goal is that PPPs’ financial status should be open to scrutiny by independent valuers to ensure transparency (Rosenbloom, 2007). The establishing and signing of a PPPs contract requires further review and interpretation to ensure key deadlines have been stipulated and that the length of the partnership justifies the scope of the work. Another aspect of the contract is the mandatory documents that lawyers, financial experts and accountants need to review to ensure that they are compliant and justified (OECD 2008:125). The challenges presented with the PPP contract that were the focus of this research, visibly lacked accountability and transparency, which should be the focal point of a watertight contract that can hold the private sector accountable.

6.3 Research methodology

Content analysis is a method that has been used successfully by several IS researchers (Klein & Truex, 1995; Ngwenyama & Nielsen, 2003; 2014). Content analysis was used to extrapolate, from the interviews and minutes of meetings, challenges embedded in the ICT/IS service delivery PPP contract, leading to failure. Content analysis is a method of manual



or automated analysis of semantic content of documents (transcripts, minutes of meetings, interviews – audio or video) to make inferences, derive in-depth understanding or to draw conclusions about the text (Neuendorf, 2002; Williamson, 1975; Ngwenyama & Sullivan, 2005). According to Krippendorff (1980:51), “*Content analysis research is motivated by the search for techniques to infer symbolic data what would be too costly, no longer possible, or too obtrusive by the use of other (research) techniques*”. To conduct content analysis on any text, the researcher creates a dictionary of terms that are clusters of words or phrases that form mutually exclusive categories for analysing documents and coding the text (Williamson, 1975; Sullivan and Ngwenyama, 2005). Computer-supported content analysis is a particularly powerful technique because of its potential to derive meaningful categories from large volumes of data that would overwhelm researchers. Another important advantage of using content analysis software tools is the consistency and reliability of the coding that does not exist in manual analysis (Ryan & Bernard, 2000). There are a number of software packages available that help to facilitate content analysis. In this study, the researcher used ATLAS/TI.

6.3.1 Empirical material and analysis

The empirical materials of this study consist of minutes of meetings and interviews held with the stakeholders of the Public Private Partnership contract responsible for the project (Appendix 2). This paragraph provides the details about the method followed to gather the data. The research started with a number of telephone calls of one hour to narrow down the required details. It was followed up with email correspondence to decide what would be discussed during the formal meetings. Telephonic notes were coupled with email correspondence and used to assist during the meeting to extrapolate information from the interviews and to prompt the stakeholders on the details that had been discussed for further elaboration. Valuable insight was gathered from the telephone conversations as well as the minutes of the meetings. Hence, each of the minutes of meetings requires a different kind of clarification to give logic to data with the overall aim of finding the challenges and opportunities. From the available materials, the minutes of the meetings served as the main sources of analysis.



The interviews assisted with enriching the minutes of the meeting and provided corroboration. While transcribing and interpreting the interviews enriched information, other documents were interpreted and analysed to add information to the results found. A follow-up study of the results with relevant participants through email was made possible in order to avoid researchers' biases and corroborate the findings. These results were complemented by the analysis of documents, such as meeting notes, from the consultants. Based on the data collection and analysis, the process that ensues is the results and findings about the interviewees' responses with regard to PPP contracting for ICT service delivery in the information systems domain. The primary objective of the analysis was to use content analysis to ascertain what the participants' views were of the contract between the DOL and SIS and what the perceived challenges of the contract were.

6.3.2 Content analysis procedure

The initial process that was followed for gathering information was telephonic conversations with individuals in the PPP unit and individuals who had been part of the project life cycle, as well as looking at minutes of meetings held by stakeholders. One-on-one meetings followed up the initial telephonic conversations in order to gather information that was relevant and useful to the future of PPP contracting for ICT service delivery. The interview study was designed by following the work of Myers and Newman (2007), Schultze, and Avital, (2010). Even though the interviews are rich sources of interpretations, they were supplemented with other sources, including email correspondence and minutes of meetings. The researcher hand coded a sample using the five risk factors from the theoretical framework (refer Table 4), in order to develop search terms to do the systematic content analysis using Atlas/TI.

The minutes of meetings and interviews required several iterations and searching, reading and interpreting text segments linking up with the five themes. I examined the interviews to identify similar themes or new themes. Data from the interviews were categorised under the



five themes after the statements were evaluated within the context. This process allowed the subtleties and semantics to be taken into consideration and provided in-depth familiarity with the data through a reiterative reading process (Basit, 2003; Graneheim & Lundman, 2004; Bailey, 2009). The coding and analysis process required intense concentration and rigorous input from the researcher in order to analyse meaning conveyed by the data (Coffey & Atkinson, 1996; Hunter et al., 2005; Bailey, 2009).

6.4 Empirical findings from interviews and minutes of meetings

Empirical observations on lack of performance monitoring - The DOL and SIS had a detailed contract that was negotiated from 1998 to 2002, articulating the design, project scope, cost, and the timeline for completion and termination support when the final contract was signed and work on the project started. Considering the fact that the planning for this contract had been done over four years, one would assume a strategic plan was in place to assist with contract challenges during the life-cycle of the project in order to mitigate opportunistic risk. The empirical observations suggest that the DOL was fully aware of the project challenges and asymmetry of power in favour of Siemens. They had experienced intermediaries such as KPMG Service Proprietary Ltd that pointed out blatant flaws of overbilling. The management of the DOL overlooked key clauses in the contract that could have been implemented to terminate the project due to non-performance. This unfortunately was only considered when the contract that was ending. The following quotation illustrates the lack of performance monitoring by the DOL from the following stakeholders: the Treasury, Chief Information Systems Officer (CIO), political parties and the Director General of the DOL.

“The treasury's review of the system found several flaws in the PPP, including that there was insufficient monitoring and contract management by the DOL. The treasury also found that a lack of contract understanding by the DOL stakeholders resulted in contractual remedies not being utilised when Siemens' performance was inadequate” (Interviews and minutes of meetings, Appendix 2).



The relationship breakdown between the DOL and SIS led to fewer constructive discussions and decision-making forums; the result of this was lack of participation at meetings, resulting in inadequate monitoring, accountability and delays in decision making to manage the contract. This is ultimately a sign of project fatigue where relationships have broken down irreparably, hence the lack of management involvement from the Department allowed the oversight for effective execution of the contract, which should have ensured that the scope and deliverables were adhered to and compliance effected. This included the failure to implement a penalty function that would penalise SIS for failure to deliver the requirements and could have terminated the contract during the first four years if internal resources with relevant technical skills to oversee SIS deliverables had been available. The DOL resources were handed over to SIS at the inception of the contract, which meant that non-ICT personnel were required to monitor and control ICT deliverables, which was a fundamental error and poor judgement by the DOL management. The following statement by political parties and the Director General reflects the fact that the contract suffered due to the lack of performance monitoring.

“The DG commented that the management of the contract did not fully meet expectations, owing to the department’s inability to manage the scale of the project, and described it as being “a boat that was allowed to float without direction. Going forward the department should take the lead in developing a business imperative that suits its delivery objectives” (Interviews and minutes of meetings, Appendix 2).

If the objective of the PPP contract had been achieved, it would have been beneficial to government success to facilitate improvement in public service delivery. This would have built key IT resources in the public sector that could support government and improve efficiencies that are much required for the future success of the public sector ICT/IS implementations.

Empirical observation on inappropriate vendor selection - It is of paramount concern how the DOL decided on Siemens as a service provider, knowing they were not experts on IS



implementation. Siemens is a global company that provides machines and boxes; they do not develop systems. This information challenges the fact that DOL management did not scrutinise the tender process diligently since, if it were the case, they would have known that Siemens was not the appropriate partner. Siemens had indicated that EOH would be the service provider since they had the technical expertise for this scope of work. The question is why EOH did not tender for the project directly. It was later established that EOH was taking over Siemens and they would be one organisation anyway. Unfortunately, this is not how a tender process works; EOH should have submitted tenders in their own capacity. When scrutinising the contract the new Chief Information Systems Officer made the following comment:

“The (CIO) mentioned that the contract was favourable to Siemens, and that Siemens was not the right service provider. This was a global company that specialised in providing machines and boxes, and not systems development. Also, the contract was for a long period – ten years was too long in the IT sphere. This was such a dynamic and changing environment. Although the contract made provision for some reviewing, it was generally skewed. This statement was backed up by most of the interviewees who concurred that the contract dragged on too long. Information systems are a dynamic environment that requires upgrades and system changes every three years and, apart from that, require skilled professionals who are able to maintain and manage rapid change” (Interviews and minutes of meetings, Appendix 2).

The contract cost might never have been an issue if EOH had been the only people needing to be paid, but it seems Siemens inadvertently benefited from being a go-between without providing much in terms of service. The fact that challenges would be experienced with large and complex IS implementation was almost unavoidable, since even systems that work could have had technical challenges. This does not mean the public sector should not have been held accountable for mismanagement of public funds and poor judgement of the correct vendor selection. Leading political parties, as quoted below, were concerned about



EOH being hosted on a non-tender basis as it showed a breach of fundamental controls in PPP contract bidding.

Political Party: Democratic Alliance (DA) said the issue of the R2 billion contract had been a source of quarrel with the Department. A substantial amount of money had been spent and yet there was nothing to show for it. The DOL should explain why it would want to allow the engagement of EOH as a service provider on a non-tender basis, while there were suspicions about how EOH had got into the picture. Unless the situation was contained, it would continue to cost the Department. The DOL did not learn anything from the initial PPP contract with Siemens” (Interviews and minutes of meetings, Appendix 2).

The debate continued on how EOH was hosted by the DOL on a non-tender basis since this was one of the most contentious issues for most part of the contract. This places emphasis on how important it is for the correct tender process to be followed when selecting a vendor, not to encourage opportunism by granting tenders to the private sector based on their popularity rather than competence and best fit for the job. The promotion of trust through corporate citizenship will allow businesses to benefit from reduced risk relating to projects, crises escalation, shareholder activism, lawsuits and social issues. Increased trust driven by a commitment to corporate social responsibility (CSR) can enrich the reputation or brand value of organisations. CSR is a business endeavor with stakeholders to achieve improved economic, environmental and social performance, sometimes referred to as the triple bottom-line. The integration of CSR is no longer “a nice to do” or a matter of compliance with bylaws or standards for business; it is a requirement that business with a long-term strategic view need. That Siemens failed to disclose the subcontractor EOH for service delivery raises a serious question; the external auditors comment on this was that the DOL should ask Siemens to rectify their actions and that the DOL should penalise them for defaulting on the terms and conditions of the contract.



“KPMG comments: Siemens had subcontracted the delivery of its services and the department was not happy with this. KPMG found that since the department had not agreed to this, there was a contractor default, and the department should ask Siemens to rectify it. The report also found there was no feasibility study done, nor any agreement from the department on the use of a SAP platform. In addition, the service it received from Siemens has not been up to standard, partly as internal restructuring at the company saw it outsource delivery to a sub-contractor. The Department said it had not agreed to this arrangement "nor is it obliged to agree to the cession of the contract". KPMG was of the opinion that it constituted a breach of contract on the part of Siemens. EOH's involvement in the contract followed their purchase of Siemens as a 'global solutions' IT company” (Interviews and minutes of meetings, Appendix 2).

The fact that Siemens claimed that EOH had bought them out begs the question why no one was aware of this arrangement during the contract period but only became aware of it towards the end. Siemens changed the scenario, stating that EOH were subcontracted to them – this raised another question since the DOL had not been aware of this. The fact that the Director General (DG) was surprised by the exorbitant salaries earned by EOH was another question which was raised, since he had signed off on the contract and should have been aware of this. This seemed to be a contract that was written without substance; which blatantly seemed to ignore human resource issues; that lost control of IS implementation activities; overlooked hidden cost; and reflected government politics, absence of enforcing exit strategy, and challenges with internal resources. Trust issues and insufficient quality control of the project diminished this project value and put the DOL in a very vulnerable position. The following statement backs this up.

“A political party the Inkatha Freedom Party (IFP) agreed with the Chairperson's conclusion that the DOL was obliged to take over the EOH staff at the salary scales that had been quoted. This appeared to be robbery. The government only realised after 10 years that it had created a monster, by failing to have the correct resource



on board to manage the consultant's performance. Now the departments appeared confused as to what the next course of action should be, especially as the contract had not provided the service. Departmental entities had failed in the IT sphere because of this contract's inability to deliver" (Interviews and minutes of meetings, Appendix 2).

SIS had failed to prove that they were a significant contributor to the South African economy in terms of this contract; they had violated the trust of the South African public. They had robbed the South African economy by not being socially responsible and, as an international service provider who had received market related compensation; they should have been more open and transparent regarding the relationship with EOH consulting.

Transparency should be a prerequisite for all PPP contracts regardless of whether it is information systems, roads, transportation or hospitals. Government must ensure a competitive tendering process in order to ensure that the vendor selection process is well formulated and reviewed specifically in the IS domain. It has become apparent in this case study that even if the correct vendor had been selected, PPP contracts are open to corruption and, if service levels are not of the desired standards, the public sector manages to turn a "blind eye", pleading ignorance. When institutional mechanisms fail, moral hazard is nourished (Luo, 2002). This is what Siemens had to say to the media.

" . . . divisional director of Siemens IT Solutions and Services, says engaging in a PPP requires the commitment of both parties. "Our relationship with the Department of Labour is based on two pillars: value for money and risk sharing. A clear understanding of those two pillars, handled with commitment and maturity, is the foundation of our successful partnership." In terms of the PPP agreement, Siemens assumed full responsibility and the risks associated with taking over the DOL's IT resources, including hardware, software, support, and maintenance and application development. The Department of Labour was responsible for accurately defining business processes and ERP requirements. Siemens was tasked with system



design, development and delivery of the project” (Interviews and minutes of meetings, Appendix 2).

The DOL was responsible for defining business processes, while Siemens was given the task for system design, development and delivery. It is unclear why, after 11 years, the DOL only realised that the then current PPP model would not meet the organisation’s changing needs in the future. This was the first partnership of its kind in South Africa and, no doubt, encountered many obstacles. This should not have been the case since PricewaterhouseCoopers (PWC) were appointed to assist as transaction advisors to the department in issuing requests for proposals and selecting the ICT vendor. Hence, with their assistance, some of these obstacles could have been minimised if institutional mechanisms had been analysed to ensure that there was a best fit for this type of PPP contract.

Lack of internal resources with relevant Information systems skills - The transfer of all personnel to SIS was not one of the best strategic moves the DOL could have made since it stripped them of all of their intellectual capital and crippled them in the process, in order to monitor SIS. This gave SIS more power to manage the contract as they saw fit, since there was no supervision and they were well aware of it. It seems that even though problems were acknowledged, the public sector management encouraged the project continuation to save face, regardless of the financial impact. It is pressure from political parties that encourages ideas of grandeur by public sector officials taking entrepreneurial risk in a complex field such as IS. Perhaps they should aim to be more cautious on large technology improvements, when using public funds with their limited knowledge and skills, to manage large private sector consultants such as SIS:

“The reasons for establishing the PPP include the high turnover of IT staff in the public sector; difficulty in reaching IT objectives; the automation of services towards e-government initiatives; the department's need to improve its IT capacity and expertise; and to build management skills to ensure the IS environment is maintained when consultants are off the project. The deliverables comprised of data centre services, local area network services, IT help-desk, office productivity,



customer satisfaction, end-user access, and the deployment of end-user devices, such as desktops, laptops and printers. Systems development included training services for new systems; the design, construction and implementation of new systems; and maintenance, support and enhancement and development of technical skills” (Interviews and minutes of meetings, Appendix 2).

The fact that they failed to up-skill resources that could have benefited the DOL after the contract completion was another violation, since the DOL ended up taking on EOH staff with salary packages way beyond the normal government scales. Financial risk can deviate in practice from what has been incorporated in the contract to what happens during the term of the contract; this was evident in the relationship between the DOL and SIS. The Department of Labour (DOL) entered into a termination support for 12 months, within which the current ICT service provider (EOH) had to deliver on the outstanding deliverables. It was expected that the contractor would deliver in terms of the public-private partnership (PPP), and hand the ICT environment back to the DOL.

“Delivery aspects of the contract included such matters as the institutional memory in terms of information, licences, skilled IS staff and an IS platform that would be integrated and fully functional. SIS was required to improve the effectiveness, efficiency, quality and perception by improved delivery and reliability of routine services so that they meet published and agreed service levels; remove reliance on key individuals; improve technical quality and functional quality of systems so that maintenance and support costs were reduced and systems better supported the DOL; providing a consistent level of Information Technology service across all areas; along with continuous improvement and upgrade of systems and processes. The DOL made it clear that the PPP contract was to strengthen internal resources to prevent dissemination of internal capacity. We intend to strengthen institutional capacity by using information systems to improve reporting and decision-making capabilities. Among the key lessons learned from the PPP outsourcing has been the importance of retaining a strong internal capacity in IT. To this degree, going



forward IT service provisioning will be delivered by a combination of internal staff and external industry specialists. As a result, one of the unintended consequences of the PPP that officially ended last November 2012 was that it decimated internal capacity and had no proper governance structures in place” (Interviews and minutes of meetings, Appendix 2).

The expected outcome was to fully integrate all functional areas with one ERP system that would benefit the Department Head Office, Office of the Unemployment Insurance Fund (UIF) and the Office of the Compensation Fund (OCF). The intention was that it would lead to improved measured customer satisfaction; provide advice on emerging technologies and opportunities; provide integration with SITA services; provide the ability to accommodate future growth/decline in services and service levels; and ensure that current technology, for the time, would be in place at the expiry of the Agreement. It would assure that all hardware, applications or other infrastructure would, on termination of the contract, be capable of operation without the need of continuing any of the Contractor’s services. The deliverables that were agreed on with SIS were not seemingly complex, therefore being presented with having to exit the contract when the contract deliverables were not achieved posed a threat to the DOL in terms of higher cost and challenges with competent skills.

. . . the department was under no illusion that the exit from the PPP would pose with it risks and threats such as increased levels of attrition with the current Siemens resource pool, procurement of services that may result in higher than expected costs, the transition to a new operating model represents an inherent risk in operational stability and, other security risks. The auditing firm advised that unilaterally scrapping the contract could lead to costly litigation, and that it would be wiser to come to a negotiated arrangement with Siemens. This should however include reviewing areas of the contract where Siemens failed to deliver on its commitments on time, and enforcing the applicable penalties. It was expected that the contractor would deliver in terms of the public-private partnership (PPP), and hand the ICT environment back to the DOL. Delivery aspects of the contract included such



matters as the institutional memory in terms of information, skilled IS staff and licences as stipulated in the contract” (Interviews and minutes of meetings, Appendix 2).

The SITA legislation is mandatory for government departments acquire certain services. The DOL had a limited budget for ICT, and as a result had to decide what the most important services that should be pursued. The Labour Relations Act (LRA) section had to be considered to ascertain which resources had to incorporate into the DOL. A key risk influencing the future of ICT services environment was not having an adequate funding strategy. Current funding strategies had to be rationalized by the DOL for the continuity of ICT service delivery. There was insufficient time for a transition period and an adequate handover process. To mitigate these risks incorporating the resources of the EOH consultancy company in-to the DOL establishment would have come with the necessary intellectual property that was required.

Moral hazard - When an agent’s action is not verifiable or the agent receives private information about a principal after a partnership has been established, moral hazard comes into existence. Moral hazard would not present a problem to a partnership if the agent and the principal’s objectives were aligned. There were two possible forms of moral hazard problems that existed in this PPP contract: 1) the effort of agent which is not verifiable, and 2) the agent having information advantage when signing the contract.

In an effort to eliminate moral hazard, the principal should have offered a contract that was contingent on project milestones and linked to an incentive scheme. It has become apparent from the interview process that the agent was risk adverse instead of risk neutral; hence, the solution differed from the optimal contract under symmetric information. The agent, being assured of monthly payments with little scrutiny, would exert little effort to perform, hence why should an agent bear some risk?



“The agent was not penalized for not performing and opened the gateway for them to become an ethical threat. Internal politics and challenges with public sector management also allowed the agent to go unobserved. Lack of skilled management to identify and verify performance will always present ethical challenges. A lot was taken for granted. The lack of the public sector exposure to ICT/IS implementation was the biggest downfall of the project. When individuals cannot acknowledge that they lack the skills based on job preservation, this is the loss the public sector and government will have to face. South Africa’s public sector has reached a place where spending without consequence cannot be tolerated since it is crippling the economy” (Interviews and minutes of meetings, Appendix 2).

Implementing a system such as SAP that integrated all processes and ensured controls that did not exist were in place was an innovative step for South Africa’s Department of Labour which had been plagued through the years for poor turnaround time, bad service delivery and many loopholes for fraud, due to the lack of a fully functioning IS platform. The process was mostly manual and left room for error, for example, identity theft, documents going missing and losing money due to the lack of system controls. This should have been a project that shared the same success as the Gautrain that was the largest PPP contract for transportation launched in South Africa. The reason for the success of this PPP contract was that the contract was structured to ensure that the government and the concessionaire, Bombela Concession Company, operated within strict financial and time parameters. Many interviewees made reference to the success of the Gautrain and felt that the PPP contract for ICT/IS service delivery was a project that should have been a success; there was nothing complex about it.

“A world class project of this nature should have been a proud moment for any private sector provided to ensure it is successful since it related to the department of labour who is responsible for unemployment benefit pay-outs to manage it more efficiently and ensuring controls are in place to generate revenue more effectively and prevent fraud among others. Siemens had no reason for botching this project



since they had EOH who are professional service providers to facilitate the IS implementation” (Interviews and minutes of meetings, Appendix 2).

Unfortunately, when agents see a loophole, which was the case with this PPP contract, shirking becomes the order of the day. Not being monitored or penalised for non-delivery opened the door for SIS to renege on deliverables. The unintended consequence of this behaviour resulted in huge cost overruns, even though there had been an agreed amount for the initial contract price when it had been initiated.

Lack of Strategic Planning - Strategic planning provides a platform for public debates, resolution of conflict of interest and opinion to be addressed during projects, which would otherwise have been ignored at a later stage of implementation, causing delays or even stopping the project. The review of the strategic plan at an early stage of the project plan can solve conflict and allow for amendments and adjustment in ways that would be acceptable to the partnerships while the project was still being implemented. Basic challenges of the project should be resolved through the strategic planning phase – that is why the strategic plan should be clear to ensure that future decision-making can be managed with little requirement for disaster management. This was a quote from one of the managers:

“The department had a strategic plan towards achieving the completion of the PPP. Thus it has done a diagnostic review of the partnership and established an internal steering committee to manage the transition to a new IT delivery model. The development of a draft plan for the exit and transfer of the PPP is currently in consultation; a new ICT strategy is being developed by the State IT Agency (SITA); and the department will conduct a feasibility study on a new ICT delivery model once the strategy is completed. There is a process under way to resource the current office of the CIO to manage closure and transition. The department secured the involvement and participation of National Treasury, SITA and the State Attorney to assist in resolving current PPP contract problems” (Interviews and minutes of meetings, Appendix 2).



“SITA's contract manager was appointed to oversee the PPP's contractual matters and high-level engagement with Siemens is under way. They are also implementing the recommendations of the KPMG report and are requesting an early contract termination for October this year. The department also says it has strengthened governance structures to oversee current IT projects. The management committee receives regular progress reports and provides guidance to the IT steering committee. There was a request for an increased participation of business stakeholders at forums which was difficult to sustain and which could have assisted with cost containment” (Interviews and minutes of meetings, Appendix 2).

The cost of the PPP increased and was expected to rise further, despite the fact that SIS had agreed to the delivery of the project for a set fee of R1.2 billion. This included upskilling IT professionals who should have been trained by SIS and transferred back to the DOL. Key issues derived from the assessments that were done revealed that: the PPP contract provided ICT capabilities with significant gaps that had to be addressed in the new ICT strategy and future ICT operating model. SIS tried to justify this cost with the following statement:

“. . . this increase is due to the increase in the consumer price index, services relating to the annual report, and an increase in end-user devices. The projected cost at the end of the contract in November 2013 is R1.9 billion. The reasons for establishing the PPP include the high turnover of IT staff in the public sector; difficulty in reaching IT objectives; the automation of services towards e-government initiatives; the department's need to improve its IT capacity and expertise; and the need to exploit international best practice. The treasury's review of the system found several flaws in the PPP, including that there was insufficient monitoring and contract management by the DOL” (Interviews and minutes of meetings, Appendix 2).

Even though a strategic plan existed, it was not reviewed or enforced and was a major downfall to the success of the project. Nothing was reviewed timeously; hence, all the negotiations and amendments happened at the end of the project life cycle. The DOL has



had to start over after the ten years to carve out a strategy that should have been thought of ten years previously. This failure set the department back ten years; robbed the public of efficient service delivery; and contributed to fruitless and wasteful expenditure of the taxpayers' money. It would have been important for the DOL to do a post-mortem of the contract and negotiate with Siemens to provide compensation for obvious shirking and opportunistic gain to save face as a global competitor.

“The acting (CIO): of the DOL said that the original intention was to develop an ICT strategy and move towards a future ICT landscape. The strategy contained two approaches: a multi-vendor environment, and an in-house capability. There were factors that had impacted on the strategy, such as compliance with the State Information Technology Agency (SITA) Act, the budget, and Section 197 of the Labour Relations Act (LRA). With three months to go there had been deviation from the strategy and the Department still needed to stabilise its ICT/IS environment” (Interviews and minutes of meetings, Appendix 2).

A strategic plan with monitoring mechanisms, strong internal capacity and the appropriate management to monitor the contract could have prevented many of the challenges associated with non-delivery and over-expenditure that plagued the contract. Lack of competence and a skills retention strategy seem to have been overlooked at the initiation of the contract – these became critical towards the end when the DOL had to manage on their own.

6.5 Theoretical implications of the empirical observations

The empirical observation revealed that the various risk factors encompassed accountability, governance and transparency, which are critical to the successful monitoring of ICT/IS implementation. Accountability, transparency and governance are particularly relevant to contractual principles pertaining to financial management that, if unclear, could lead to major disputes. While it can be debated that the public sector management did not understand risk management or policy making for PPP contract management, they had embarked on this



embarked on this ICT/IS project with the intention of providing public value and improving efficiencies. It would be expected that risk management should have been the most important component of the project to negate failure. The risk factors and propositions from Study 1 corroborated the findings in Study 2, highlighting governance, transparency and accountability issues (See

Table 11). Irrespective of the challenges associated with the ICT/IS project; it presents opportunities for the development of successful PPP ICT/IS service delivery in the future. ERP software remains an effective tool that ensures efficient service delivery and consolidates day-to-day operational requirements. SAP is a fully integrated system that has the capacity to automate multiple functions that align business objectives. The implementation of a fully integrated system would align the DOL's e-government vision. This alignment would take place through the achievement of five functions. First the digital linking of information systems with operational systems of government processes. Second, digital transactions that is self-service between the government and the public sector. Third, the shifting of human involvement from routine and low value tasks to high value personal consulting on important issues. Fourth, the transformation of staff into knowledge workers and equipping them with digital information tools to communicate with clients and manage relationships. Last, the provision of access (to the public and staff) to appropriate and real-time knowledge and information with a few simple objectives:

1. Acquisition of a single coherent set of services that integrates and provides for (by incorporation into a single information technologies service entity, including the management of third party providers of related services), the business needs of the DOL, the Unemployment Insurance Fund and the Compensation Fund, including provincial offices and labour centres;
2. Supporting the Department's initiatives in regard to business restructuring and advising on the efficient operation and the meeting of the business objectives of the Department;



3. Implementing an electronic one-stop service infrastructure as an optimal business scenario for the Department, including integrated systems and call centre technology;
4. Providing information management and operational and support training to Departmental staff; and
5. Supplying, installing, operating, maintaining, routinely upgrading, refreshing and if necessary changing and/or enhancing and/or replacing the Information Technologies required for the provision of the Services in accordance with the provisions of the Agreement.

The achievement of these objectives through a fully integrated system will assist with managing risk and can decrease cost in the public sector and increase productivity. With defined risk structures and decision-making policies put in place, successfully utilised public sector ICT/IS projects can be managed in an effective manner along with the following:

1. A core group of internal resources with technical skills and knowledge should be appointed to oversee delivery of the contract requirements.
2. Business analysis capability is critical to ensuring that the business requirements can be fully understood and articulated.
3. Project management methodologies should be utilised to manage performance according to requirements and agreed timescales.

Table 11 below provides a backing from the interviews corroborating the propositions.



Table 11: Propositions derived from the risk factors and corroborated by the interviews, Source: (Interviews and minutes of meetings, Appendix 2).

Risk category	Propositions from Study 1	Interviews and minutes of meetings backing
Lack of performance monitoring	P1: When risk is not specified in the PPP policy or the PPP contract, the principal will have challenges monitoring the agent's performance – the agent will be inclined to shirk on contractual deliverables.	The treasury's review of the system found several flaws in the PPP, including that there was insufficient monitoring and contract management by the DOL.
Inappropriate vendor selection	P2: If an inappropriate vendor is selected that lacks capabilities to adequately engage with all the actors in the project; the contract is likely to fail.	The (CIO) mentioned that the contract was favourable to Siemens, and that Siemens was not the right service provider. This was a global company that specialised in providing machines and boxes, and not systems development.
Lack of competent management and skilled Information Systems resources	P3: When there is a lack of capacity planning and resource expertise, there will be challenges with skills transfer and knowledge management.	The reasons for establishing the PPP for ICT/IS service delivery was the high turnover of IT staff in the public sector, resulting in difficulty in reaching IT objectives. The department's need to improve its IT capacity and expertise and build management skills should have ensured the IS environment was maintained when consultants were off the project.
Moral hazard	P4: When an agent is not held accountable, moral hazard will pose a risk to the objectives of the contract.	The agent was not penalised for not performing and opened the gateway for the agent to become an ethical threat. Lack of skilled management to identify and verify performance will always present ethical challenges.
Strategic planning	P5: When public sector managers do not have a strategic plan in place, there will be challenges with reviewing and managing ICT/IS implementation as it develops.	Compliance with the State Information Technology Agency (SITA) Act, the budget, and Section 197 of the Labour Relations Act (LRA). With three months to go, there had been deviation from the strategy and the Department still needed to stabilise its ICT services.



6.6 Conclusion

In conclusion, the empirical analyses presented provide evidence of the challenges relating to the management of the PPP contracting for ICT/IS service delivery. Sullivan and Ngwenyama (2005) assert a consultant lacking experience with business activities and/or technology can lead to disputes and litigation or escalating costs and declining services levels. The fact that IT is such a dynamic changing environment, vendor experience and expertise should have been verified before the contract was granted. However, large information systems projects are difficult to monitor and it is therefore a challenge to know whether things are doing well or badly until ultimate abandonment and failure (Oakeshott, 1962). The challenges the DOL had with performance monitoring during the life cycle of the contract resulted in complete loss of control of the project, due to lack of technological skills, management expertise and adequate advisory services, to caution them about project pitfalls during the project. They therefore only realised, after ten years that they had spent a huge outflow of cash for information systems implementations, but little to show.

When a project goes off the rails, it can sometimes be difficult to find those responsible and hold them accountable, even in the unlikely event that any one identifiable person or group is responsible. Much of IS failure suffers from what (Oakeshott, 1962) terms “*rationalism*,” that is, a belief that there is some technique that can be applied to IS developments that will fix them for the last time. Failure is still so common because that right technique, new programming methodology, a better design contract, a new management fad, a new consultancy template or whatever has not yet been discovered, or if it has, it has not yet been applied” (Goldfinch, 2007).

Goldfinch, (2000; 2007) noted that there is a belief that processes involved in IS development are not fully understood and that these complexities makes it difficult to control, hence there is no magic solution to IS implementations. In the public sector, IS developments are:

“ a potent mix of dangerous enthusiasms, unclear aims and technical specifications; highly challenging technical problems; problems of agency; frailties of humans and



management systems; personality and other conflicts; immensely complex contracts; producer and consultancy capture; legislative instability; and clashes of cultures amongst public servants, software developers, consultants, sales people and their respective organisations amongst other issues” (Goldfinch, 2007:925).

The research contributes to theory and practice of management competency challenges. Key findings of the empirical analysis indicate that the public sector needs to rethink the strategy of ICT implementations. They also need to look at PPP contract management to ensure the public sector has recourse against the private sector and that challenges with skills transfer to manage the IS platform is supported. There is a very specific gap in literature about ICT implementations using PPP contracting. Although this research has advanced one’s understanding of PPP contracting for ICT service delivery, moral hazard, adverse selection, and inappropriate vendor selection remain a challenge for PPPs with reference to ICT/IS service delivery; hence the need for further research in this domain.

The limitation of this study was the researchers’ inability to interrogate more stakeholders of the DOL and SIS that could have enriched the empirical analysis. The increase in moral hazard in the public sector has the potential to accelerate if adverse investigation to gathering information persists.



CHAPTER 7: *Study 3*: Interrogation of the public discourse on the DOL project using media documents

Abstract

Public Private Partnership (PPP) contracts for ICT/IS service delivery have drawn considerable media interest due to the fact that many such contracts have been plagued by problems such as cost overruns. The purpose of this paper is to critically analyse media discourse relating to the failure of a PPP contract between the South African Department of Labour (DOL) and an information and communication technology (ICT) firm (referred to in this paper as SIS). The contract pertained to the provision and implementation of ICT/IS services for the DOL. The theoretical foundation for this research is Habermas' theory of communicative action that focuses on normative standards for communication and implications of public speech. The research builds on a growing literature on critical discourse analysis (CDA) that systematically applies Habermas' validity claims to empirical research on public communication focused on revealing distortions concerning claims of truth, sincerity, legitimacy and comprehensibility. The study contributes to understanding issues of public accountability of PPP contracts and extends the reach of critical research into PPP contracting for information systems (IS) services. It highlights key challenges of the lack of public sector management competences in securing the public interest in PPP engagements.

Keywords: Critical discourse analysis, Habermas, Validity claims, Information systems research, critical theory



7.1 Introduction

The subject of this paper is to look at the media's reflection regarding the failure of Public Private Partnership (PPP) contracts between the public and private sector for Information and Communication Technology (ICT) service delivery. The aim is to interrogate PPP contract failures and highlight the consequences of a lack of skills in PPP contract management amongst Information Technology (IT) professionals in South Africa. Such skills are needed in order to deliver successful Information Systems (IS) implementation projects through PPP contracts. More specifically as stated in Table 2 above this study interrogates the question:

What is the nature of public accountability for PPP contracts in ICT service delivery?

The lack of conceptual clarity on PPPs often leads to false statements about PPP contracts, since what is true for one specific PPP type cannot necessarily apply to other forms of PPP (Weihe, 2006). The fact that a PPP is a contested and ill-defined concept leads to confusion, since the term PPP has a different meaning to different people (Hodges & Greve, 2005; Linder, 1999 & Van Ham & Koppenjan, 2001).

Governance principles should be operationalised for the designated objectives of PPPs, since accountability is becoming critical, given the increase in PPP contracts being used by government for doing business with the private sector (Hodges & Greve, 2005; Brinkerhoff & Brinkerhoff, 2011). Despite PPP contracting being the government's preferred choice of doing business with the private sector, there has been limited academic research on the success of ICT service delivery for in IS implementations through PPPs. Hence, there remain a number of unanswered questions about the use of PPP contracting for ICT/IS service delivery and the retention of skilled IT professionals in the public sector.

There is a dearth of literature on IS implementations in the public sector which employ a critical stance such as through the lens of Habermasian theory (Klein, 1999; Richardson, Tapia & Kvasny, 2006). Media coverage of the PPP contract between the DOL and SIS is of



academic interest for this research, since the media is not only a provider of information but helps shape public opinion. Cohen (1963) states that the media is believed to be successful in influencing their readers in what to think about articles. Media discourse is one of the important ways through which reality is socially shaped (Cukier et al., 2009; Jankowski & Jensen, 2002; Chigona & Chigona, 2008). Media discourse can affect the acceptance, the use and the effect of an ICT project.

Through the use of the Habermasian concepts of ideal speech and the four validity claims of truth, sincerity, legitimacy and comprehensibility, this paper sheds light on some of the arguments that various actors in the public discourse have made to explain the issues of skills retention and management competence influencing the success of the PPP initiative. This research uses a critical discourse analysis (CDA) method (Cukier et al., 2009) to interrogate public documents and media articles, which have discussed the matter during the period 2012-2013. It has become critical to conduct empirical research to build theories (Habermas, 2006). CDA was deemed appropriate for the research on the PPP contract between the DOL and SIS since it provided insights and moral standards for the analysis to identify distortions that might have influenced the success of the contract. Critical analysis infers that the validity of the statements or feebleness in theories or their concerns is aggressively pursued (Stahl, 2004a; Chigona & Chigona, 2008). There had been limited media coverage over the first eight years of the DOL-SIS PPP contract under study, and mainly from 2012 to 2013, when challenges were experienced with service delivery at the DOL, did the media take note. Media discourse of the PPP contract between the DOL and SIS that was analysed in this research was from South African media articles for the period 2012-2013.

7.2 Background Context

The government of South Africa is engaging in PPP contracts in order to enhance public sector skills development. Based on information asymmetry, however, public sector employees gravitate to the private sector since the public sector cannot compete with salary



scales offered by the private sector and eventually this leads to emigration of IT professionals to Europe and other international countries.

Historical records have shown that the emigration of highly skilled IT professionals from South Africa has long been a concern for the country and one leading to deviating clarifications, disagreements and expression of fears (Kerr-Phillips & Thomas, 2009). South Africa's dramatic changes with the end of apartheid in 1994 and the advent of a multiracial society have been matched by unparalleled devotion being directed towards migration issues (Bhorat, Meyer & Mlatsheni, 2002). The technology revolution has resulted in huge growth opportunities across the world, notably in the (IT) sector. Countries like South Africa who have a pool of highly skilled IT professionals have seen the demand for their skills globally (Birt, Wallis & Winternitz, 2004).

The post-apartheid government inherited a disseminated work force and education system, which was established along racial and provincial lines (Du Toit & Van Tonder, 2009). This has created chaos, which has resulted in fruitless and wasteful expenditure and an inefficient and poor graduate output, which aggravates the skills dilemma further (Hofmeyr & Buckland, 1992:26).

South Africa's democracy in 1994 created beliefs of an intense change in economic and social development taking place; however, for millions of South Africans this transition has not delivered on changing the lives of the people of this country (Du Toit & Van Tonder, 2009). From 1984 to 1993 trade and financial sanctions contributed to the lowest growth, hence the removal of these challenges was expected to transform South Africa (Du Plessis & Smit, 2006). There has been a slight improvement since 1994 specifically when compared to the previous ten years; improvement has been marginal both by international standards and by the standard of South Africa's own history (Du Plessis & Smit, 2006).

There were extensive expectations and hope that a democratic institution would change and alleviate poverty as well as the shortage of IT skills in the public sector, but transformation remains questionable (Desai, 2013). The public sector is still reliant on the private sector for



IT services, hence widening the skills gap. Government's move to PPP contracting for ICT service delivery was specifically advanced since PPPs have been used successfully to turnaround infrastructure challenges, e.g., transportation, roads and hospitals (Altbeker, 2007). It has been unfortunate that this PPP contract for ICT service delivery was not successful considering it was the first of its kind. However, South Africa is not the only country struggling with IS implementation in the public sector using private sector contractors; Europe and America's public sector have experienced similar challenges (Hodges & Greve, 2005).

It has become a macro challenge for the South African government to improve services and retain key IS skills, hence the need for PPP contracting (Kerr-Phillips & Thomas, 2009). The government's expectation was twofold; that there IS pool would be trained and upskilled by the private sector and that they would have a fully integrated IS system that would streamline operational requirements: that is why the staff of the DOL was transferred to SIS. According to Kerr-Phillips & Thomas (2009), there have been major challenges for South African private sector to retain IS talent for their own retention due to the demand internationally for IS professionals. The immigration of IS staff makes it difficult for the private sector to train and retain for their own service let alone to replenish the public sector shortage. International markets offer better incentives for IS resource resulting in the brain drain in South Africa hence affecting IS skills retention.

7.3 Theoretical framework

The framework for the study is Critical Discourse Analysis (CDA), of which the term discourse can be described as "*traditional language codes to express the social construction of reality and events*" (Cukier & Thomlinson, 2005:89; Chigona & Chigona, 2008). The format in which events or issues are discussed has the ability to profile or limit people's understanding, through the underpinning of norms previously allowed. Furthermore, discourse analysis endeavours to search various ways in which the use of linguistic arrangements and assumptions are used.



Studying discourse is concerned with the ways social and political control are replicated by text and/or speech, as it views language as a “*form of social practice*” (Fairclough 1989: 20). There are many CDA viewpoints. Two examples used in the field of Information systems are known as Faucauldian and Habermasian. This study utilised the Habermasian model, which will be discussed in more detail in Section 7.4 (Cukier et al., 2009).

It has been established that the majority of CDA procedures work on a small set of documents, due to the rigour involved in analysing texts. Typically, CDA has been useful where the quantity of data is small, such as media articles, policy documents and where there are an inadequate number of dialogues (Roode et al., 2004). The question is how CDA can be applied to a large corpus. A practical approach involves selecting a small corpus of text. For example, in analysing the South African government’s view on ICT for development, (Roode et al., and 2004) selected three dialogues from a bulky pool of government officials’ dialogues. Such approaches are often critiqued for being potentially selective (Stahl, 2004a; Cukier et al., 2009). The question asked is: how it can be proven that the researcher did not deliberately select the documents to prove a point (Stahl, 2004a; Cukier et al., 2009)? Various authors propose that a CDA method addresses this concern by combining content analysis and hermeneutics approaches to critically analyse a large corpus (Stahl, 2004a; Cukier et al., 2009). Considering that this research dealt with media discourse spanning a period of two years and consisting of a number of media reports, an approach based on the Theory of Communicative Action (TCA) was used (Cukier et al., 2009). Habermas had one objective and that was to provide a theoretical framework for the critical analysis of assemblies for, and the replication of, discourses of the public domain (Cukier et al., 2009). Essential to Habermas’ programme is the examination of how the media and their relationships with influential economic and political interests shape decision-making, public opinion and choice in democratic societies (Cukier et al., 2009). The critical questioning of public discourses about information technology revealed in the media is important to information systems as it has an influence on democratic societies (Cukier et al., 2009). Furthermore, a deep-rooted tradition of critical theory exposes how discourses broadcasting the idea of technological imperatives, and signifying technological change as unrelenting



and inescapable, are shaped (Ellul, 1980; Winner, 1986). Several researchers have implemented Habermas' theoretical framework for critical analysis of communication, as a basis for serious questioning of pertinent IS phenomena (Ngwenyama & Lee, 1997). The following section represents the key concepts and principles relevant to this research (for detailed discussions (see Ngwenyama & Lee, 1997; Klein & Huynh, 2004; Ulrich, (2001). A variety of theoretical viewpoints can inform discourse analysis (Heracleous & Barrett, 2001; Slembrouck, 2001), but CDA is used to cross-examine texts in order to reveal structures, methodical communicative distortions and power associations core to the discourse (Fairclough, 1995). The purposes of CDA are to effect change; in other words, the liberation of participants in the discourse and improvement of social activities and relations (Wodak & Meyer, 2001; Brooke, 2002). Following Forester (1983) and Ngwenyama and Lee (1997), Habermas' worldwide philosophy is used as the conceptual framework in the approach to CDA (Cukier et al., 2009).

7.4 Principles of Habermasian CDA

Very few scholars have articulated principles for conducting Habermasian CDA apart from Cukier et al., 2009, therefore (Cukier et al., 2009) is the foundational reference for this section of the thesis. Often ignored in Habermas' TCA is the primary approach for analytically questioning discourses (Cukier et al., 2009). Habermas has been criticised for not giving programmatic advice on using his 'worldwide pragmatics' for empirical analysis (Cukier et al., 2009). The approach for empirically applying the TCA conceptual framework is entrenched in the concept itself, namely the recognition of unconventionalities from the worldwide standard for communication, by disputing the validity concepts and revealing the resulting communication misrepresentations (Cukier et al., 2009). The important principles for applying widespread language to analysis of discourses are:

1. The listener or reader accepts all dialogue and is focused on attaining communal understanding of the dependability of the validity claims (Cukier et al., 2009). Consequently, this requires that every discourse is taken to be unrestrained and valid when its implied validity claims are disputed.



2. The analyst must make rulings about the intent of the discourse, if the discourse fails any of the claims; this is achieved through examining the orientation and aims of the discourse (Cukier et al., 2009).
3. The discourse must be questioned from the viewpoint of each of the four validity claims of truth, sincerity, legitimacy and comprehensibility (Cukier et al., 2009).

Table 12: Communication strategic action and distorted communication, Source: Adopted and extended from (Cukier et al., 2009).

Social action	Action sub-type		Orientation	Potential outcome
Communicative Strategic	None Open Strategic Concealed Strategic	Conscious deception Unconscious deception	Achieving understanding Achieving success Achieving success Achieving success	Cooperation Influencing Manipulation Systematically Distorted communication

Habermas' viewpoint proposes that a discourse is always questionable and convertible, based on the orientation (Cukier et al., 2009). Habermas' own analysis of public discourses is always based on the orientation of the participant, the impact and implication of what is said and not on the level of the sentence or minute textual level (Habermas, 2000). Habermas stresses that individual validity claims can be thematically emphasised; however, they are extensive and must always be raised concurrently, even when they cannot be focalised at the same time (Habermas, 1984). He also said that these validity claims "*constitute universal conditions of communicative action and are applicable for empirical analysis of discourses*" (Habermas, 1984:440-441). Thus, Habermas' validity claims serve a common standard for analysing communication distortions across a wide range of extremely varied discourses (Cukier et al., 2009).

7.5 Categories and principles for analysis

The strategy for critical discourse analysis outlined in Cukier et al., (2009) revolves around the four validity claims of truth, sincerity, legitimacy and comprehensibility which, according to Habermas (1984) are inferred in every communication and represent



appropriate circumstances for understanding and providing thoughtful analysis of communications. Cukier et al. (2009) used these theoretical concepts and the principles for ideal communication to develop a framework and method for empirical analysis of discourses. It is important to note here that the approach formalized in Cukier et al., (2009) was earlier illustrated in Ngwenyama and Lee (1997), but they did not provide all the details of their method. Specifically, Ngwenyama and Lee (1997) did not discuss the use of Toulmin's (cf. Toulmin, Rieke and Janik, 1978) schema in their analysis of the claims. This detail was provided later in the methodological prescriptions in Cukier et al. (2009). However, these two papers (Ngwenyama and Lee, 1997; Cukier et al., 2009) are the seminal works outlining the principles for Habermasian critical discourse analysis in the IS discipline. Table 13 below provides a short summary of the general framework and principles of their approach to discourse analysis, which I will now briefly explain, staying as close to their intentions.

The Habermasian approach to discourse analysis as outlined by Ngwenyama and Lee (1997) and Cukier et al. (2009) was intended to assist the researcher in discerning whether a communicative act should be considered truthful, sincere, legitimate, clear and comprehensible, by examining empirical features of the communication (Cukier et al., 2009). By methodically analysing speech elements using empirical materials against the theoretical concepts, researchers can unearth and analyse the evidence of communication distortions (Cukier et al., 2009). The violation of the truth concept is important for CDA, specifically to detect untruths, biased declarations and incomplete statements in which counter-arguments cannot be formulated, which can lead to manipulations. In testing the validity of the truth concept, one asks the question "*Is what is said factual or true?*" Is the truth recorded or communicated factually or objectively correctly? This will however require appropriate reading of the text and suitable analysis of the argument including a thorough analysis of the entire discourse that should be logical, consistent, complete and defensible (Ngwenyama and Lee, 1997; Cukier et. al., 2009).

The *Sincerity* concept is concerned with the communicator's intention. The question which the hearer (reader) must interrogate if what is said really what is intended (Cukier et al.,



2009). Since intentions cannot be perceived openly, an inference must be made and tested concerning sincerity of the speaker. The testing of implied sincerity is achieved by examining the communication for inconsistencies between the participant's statements and actions, as well as inconsistencies between what the participant says, how the participant says it. Cukier et al., (2009), suggests using the following questions to guide the empirical examination of sincerity in the communication: "*Is what is assumed or implied consistent with what is stated in the discourse?*" "*Is the text intending to evoke an emotional response?*" "*Is the participant or writer using hyperbole or excessive jargon (Cukier et al., 2009: 180)?*". While Ngwenyama and Lee (1997) stresses the social and political context of actors when interrogating sincerity, Cukier et al. (2009), citing Van Dijk (1991) argue that stylistic choices often suggest the sentiments of the communicator and should be interrogated. They argue that attention should be paid to expressive adjectives and nouns, to hyperbole, to metaphors and to jargon, which can be used to invoke powerful associations, values and larger discourses (Cukier et al., 2009). Both Ngwenyama and Lee (1997) and Cukier et al., (2009) pay close attention to interrogating *legitimacy* of communications as it is most important to identifying systematic distortions. *Legitimacy* addresses the need for correspondence between the speaker's expressions and his/her role within the social and political context. It also concerns who is 'allowed to speak' and who is 'silenced' (Ngwenyama and Lee, 1997). Often, technical jargon can be used to silence stakeholders as it can create an inescapable technical 'mystique' reinforcing the dominance of some actors in the discourse (Cukier et al., 2009). To interrogate *legitimacy* it is also important to question whether communication conforms to the norms of the social setting in which it is immersed. And a prerequisite to legitimate and factual communication requires that all arguments must have an equal chance to be heard (Cukier et al., 2009). For example, in journalism, a well-established standard requires journalists to ensure symmetry in their reporting. Hence, an indicator of *legitimacy* in public discourse is the level of representation and muting of non-conforming voices (Van Dijk, 2002). Another requirement is the choice of experts and the ways in which they are used to influence readers to accept certain opinions (Cukier et al., 2009). Empirical testing of legitimacy is directed by the following



questions: “Who is allowed to speak?” “Who is considered an expert and on what basis?” (Cukier et al., 2009:181). When these questions are answered, it is possible to consider discourse deficiencies, which groups and viewpoints are sidelined or excluded, as well as “What information is missing or stifled in the discourse?” (Cukier et al., 2009: 181).

Table 13: Categories and Principles for Habermasian CDA, Source: Adopted and extended from Cukier et al., 2009

Validity Claim	Criteria for ideal communication	Potential distortion	Validity Test	Speech elements for empirical analysis
Truth	The propositional content of what is said is factual or true.	Misrepresentation	Is evidence and reasoning provided sufficient?	Argumentation
Sincerity	The participant is honest (or sincere) in what she/he says.	False Assurance	Is what is said consistent with how it is said?	Connotative language; Hyperbole Metaphors; Jargon.
Legitimacy	What the participant says (and hence does) is right or appropriate in the light of existing norms or values.	Illegitimacy	Are competing 'logics' (e.g. Stakeholders) equally represented?	Use of 'experts' and 'authorities' Silences
Comprehensibility	What is said is audible (or legible) and intelligible.	Confusion	Is the communication sufficiently intelligible? Is the communication complete? Is the level of detail too burdensome for the reader or hearer?	Completeness of physical representation; Syntactic and semantic rules

Comprehensibility refers to the technical and linguistic clarity of the communication (Cukier et al., 2009:179). In other words, is what has been communicated distinct (or intelligible) and lucid? This is the only claim out of the four that addresses grammar and semantics as prerequisites for pragmatic analysis (Cukier et al., 2009). Indicators for comprehensibility are the “completeness of the symbolic representation, the presence of a shared language and the exclamation of grammatical and semantic correctness” (Cukier et al., 2009:179). Consequently, interrogation of comprehensibility is guided by the following questions: “Is the communication complete and without oversights important to this meaning?” “Is the amount of information onerous for the reader or listener?” (Cukier et al., 2009).



7.6 Research Methodology

This section documents the preparation and critical discourse analysis technique as well as data collection. This chapter aims at presenting the philosophical assumptions guiding the research process and the methodology adopted. This is essential because philosophical assumptions are likely to influence the choice of methodology and information gathering techniques. It also provides, according to (Cukier et al., 2009) philosophical guidelines for further development of the conceptual area.

The chapter starts with an illustration of the way a critical discourse analysis is operationalised in this research.

7.6.1 Operationalising TCA

Cukier et al., 2009, cited that both hermeneutic analysis and content analysis techniques are suitable for CDA since discourse analysis uses only qualitative techniques. By operationalising TCA, Habermas makes it clear that solely an objectivist epistemology cannot inform critical social analysis. Habermas (2000) states, that an epistemology for critical theory that embraces multi methods is worthwhile, as long as it is critically oriented and self-scrutiny. Having considered the above, if media text is overwhelming to a researcher, content analysis software such as ATLAS/TI can assist with CDA analysis. ATLAS/TI allows for exhaustive analysis of data to unearth empirical observations that could remain unobserved if human information processing were used. Phillips and Hardy (2002) state, “the discourse analysis is selective and lacks rigour”. Without tools to conduct analysis it will be difficult to systematically analyse large volumes of textual data. The general procedure that was followed to operationalize the approach to CDA in this study is summarised in four steps:

1. Ngwenyama and Lee (1997) state that relationships and political affiliations among stakeholders are essential to CDA. Therefore, it is imperative that the identification of documents that is required to extrapolate text is given careful consideration. Multiple data sources should be considered to corroborate evidence and validate integrity.



2. Content analysis was used to analyse the media articles. The objective is to identify empirical observations relating to the validity claims and to identify repetition of precise arguments. The analysis endeavours to unearth the periphrastic strategies related to repetition of exact opinions (often uncorroborated by evidence) to include it in life world issues taken for granted as established facts. Content analysis is a two-stage procedure, which uses preliminary coding to identify the speech dimensions that signify each validity claim, as outlined in Table 14. Considering the challenges with public accountability, particularly in this instance with PPP contracting for ICT service delivery, the researcher placed particular emphasis on the public accountability issues by interrogating the issues relating to the failure of the DOL-SIS ERP implementation. Each article was reviewed and coded twice for;
 - Statements relating to the challenges of the ERP implementation failure;
 - terms used to describe the project, adjectives, metaphors and other associative language;
 - specialists and stakeholders quoted in the context of the PPP contract; and
 - specific language or jargon.
3. Reading and understanding the empirical observations are vital. The media articles are read to unearth implicit or explicit validity claims that are tested. The test involves searching for empirical observations that refute the validity of claims made in the texts. A methodical interpretative technique is followed, as Ngwenyama and Lee (1997) advice, exploring meaning of the text in the context of the political situation and the implications of the outcome to the stakeholders (Cukier et al., 2009:179). **Table 14** provides some examples of the empirical observations how they were critically examined, and the validity of the claims tested as reflected in the media discourse.
4. An explanation of the findings is necessary. The explanation of findings draws on the larger context of the textual analysis and explores the bottomless structures it reflects.



Steps 2 and 3 above are highly repetitive, and empirical observations from these two steps could trigger further data collection (as in Step 1).

7.6.2 Empirical illustration

To illustrate the approach to CDA, a formative discourse was selected on PPP between the DOL and SIS for ICT service delivery. Most of the media articles started appearing in the public domain from the end of 2012 to 2013 when the contract termination was in sight and the DOL realised they had no continuity plans in place. Multiple data sources were used to ensure corroboration of evidence. These data sources were retrieved from the Internet by doing extensive searching on every article written about the DOL and SIS failure. All the files for the study were converted from Microsoft word to PDF documents and were imported into ATLAS/TI. Content analysis and coding procedure was done on the individual articles.

7.6.3 Case study background

The PPP contract between the DOL and SIS was the first of its kind within the South African government and therefore represented a significant milestone in terms of the way in which ICT was managed within the public sector. Unlike traditional outsourcing relationships, the PPP contract demonstrated a desire on the part of government to develop strategic alliances with private sector partners and to utilise these alliances in order to internalise necessary ICT infrastructure and expertise.

The significance of the arrangement meant that the DOL exerted great effort in procuring a service provider who would best meet the needs of the Department and would assist in bringing innovation to the Department's general strategies and business direction. The principle of joint risk that forms the foundation of PPP arrangements also meant that the procurement process and the development of a suitable contractual framework were critical to both the Department and SIS.



ICT is a critical area for the DOL to develop a strategic advantage and ensure that it is able to create key IT skills and management that will be able to manage ICT service for future IS implementation projects. The PPP contract provided the Department with an opportunity to focus on its core capabilities and to acquire value from the lessons learnt in order to better manage IS services in the future. This opportunity could be maximised as a foundation for the creation of future ICT strategy and direction.

Despite the negative perceptions that were cultivated throughout the ten-year contract period, the PPP contract was vital for developing the foundation for ICT within the Department. Key successes can be found in the operational area where SIS successfully developed support services and provision for end-user ICT accessibility. The Department was also introduced to project management disciplines and efficiency measures. This focus on operational elements can be said to have encapsulated the spirit of the contract that was based around the need to develop the necessary infrastructure and end-user accessibility of ICT within the Department.

The majority of challenges were found within the improvement services domain, particularly in relation to the development of applications, where issues arose around delivery of applications against stipulated business requirements. This highlighted a number of management failures on the part of both the Department and SIS. Despite the control mechanisms put in place by the contract, the PPP demonstrated a failure to implement appropriate governance and monitoring channels. For instance, the Department failed to make use of the Service Credit Regime detailed within the contract as a tool to penalise SIS for failure to perform according to minimum service requirements.



Table 14: Empirical Analysis of validity claims, Source: The Researcher

Examples of claims in media communications	Validity Claim	Testing criteria	Confirmation of claim	Source
Relationships breakdown between the two parties, plagued by irregularities and challenges	TC	incomplete statement	Few constructive discussions led by SIS	DOC=20; 02; 12; 01
Continuous decrease in participation at meetings, the DOL was on-going. Disputes with SIS as no clear validation or sign off process existed.	TC	Logical consistency	Inadequate monitoring of the project. Accountability about delays in decisions were required but DOL management was dis engaged	DOC=12; 07; 01; 04
Contract was written that the DOL staff would be transferred to Siemens at the beginning of the contract to be up skilled and transferred back to DOL when the project was complete.	TC	Logical consistency	DOL management was not vigilant during the project. The consultants managed the DOL staff during the project and because of the free rein employed their own consultants.	DOC=08; 13; 07; 01
Management of the contract did not fully meet expectations. The department could have terminated the contract after four years by giving appropriate notice to Siemens	SC	Hyperbole or jargon. Who speaks?	Owing to the department's inability to manage the scale of the project, it was described as "a boat that was allowed to float without direction".	DOC=10; 11 12; 04; 01
KPMG report says a termination of the contract will prove too onerous.	SC	Who are the experts?	KPMG suggested a negotiated termination since the legal route will also be too costly.	DOC=02; 06
The contract was favourable to Siemens, they failed to achieve key objectives, were they the correct service provider.	SC	Who are the experts?	Siemens is a global company that specialised in providing machines and boxes, and not systems development.	DOC=12; 01; 15
Siemens had subcontracted the delivery of its services to EOH and the department was not happy with this. This is a contractor default, and the department should ask Siemens to rectify it.	LC	Are there undisclosed interest?	The DoL should explain why it would want to host EOH on a non-tender basis. While there were suspicions about how EOH had got into the picture.	DOC=18; 01; 11; 06
The contract was for a long period -- ten years was too long in the IT sphere.	LC	Are there undisclosed interest?	Siemens failed to achieve key objectives such as improving the DOL's "IT capability, leverage expertise and special knowledge	DOC=01; 15
Language and grammer used by the media are generally clear and appropriate	CC	Is the language complete and intelligible?	Unnecessary or unexplained PPP contractual requirements can obscure interpretation.	



Whilst the evaluation of delivery against service requirements provides a historical view of events that took place over the ten-year PPP period, the significance of this research lies principally in the lessons learnt and which seek to provide a standpoint for other governmental departments that may be involved in such a PPP arrangement in years to come. In fact, the recommendations pertaining to internal control and monitoring systems are relevant not just to PPP contracts, but also on a wider level to all project activity where defined deliverables are identified.

7.6.4 Empirical material and analysis

The empirical material used in this study was gathered through downloading several media reports from a number of different websites: e.g., Department of Labour News Desk, Engineering News, Times Live, IT-Online, IT Web, Creamer Media, Business Technology and Sheq Africa. All of these are influential in communicating failed public sector ICT initiatives and the cost to government when having to renegotiate these contracts. The empirical material was collected by searching the Internet, using search statements (SIS and the DOL ICT), (ICT PPP contract the DOL and SIS) and (SIS, the DOL ICT failure). **Table 15** provides a detailed list of media sources and the number of articles used in the study. Each document was given a code by which it can be identified e.g. DOC=O1-DOC=20 (refer to Appendix 3).

Table 15: List of Media articles, Source: The Researcher

Media sources	Number of articles
Political Parties news room DA and ANC	1
Sheq Africa	1
IT-Online	2
IT-WEB	2
Business Technology	1
Department of Labour (Media Desk)	4
Engineering News	1
SA IT News	2
Times Live	3
Creamer Media	1
IOL	2



The qualitative analysis ATLAS/TI software was used to support content analysis and coding of the empirical data. An interpretive analysis was conducted using key principles of the hermeneutic circle – i.e., abstraction and generalisation, dialogical reasoning and suspicion (Klein, 1999). Abstraction is a conceptual process that removes certain characteristics from one set of ideas to reduce it to a set of essential characteristics. In generalising, specific information is applied broadly to different scenarios to draw a general conclusion from specific observations. Dialogical reasoning assists with the use of language and interaction with others, to make sense and understand the world around us. With suspicion comes the feeling of mistrust that something might be true or false but there is no certainty. Hence, after defining the corpus, Steps 2 to 3 (See Section 7.6.1) was followed, using the analysis procedure explained above. A list of central validity claims explicitly stated or implied in the media discourse was developed. **Table 14** illustrates how the validity of the claims was tested. The findings of the validity claims are explained below.

Truth claim

The truth claims were assessed by looking at argumentation and evidence in the text by evaluating the media articles relating to the challenges experienced with managing the project. The primary claim made by the stakeholders was that the project was a failure due to the lack of IT internal capacity not being developed to manage the project after the termination period, as well as competent management and relationship breakdown between stakeholders (DOC=12; 02; 01). The contract stated that the DOL staff would be transferred to Siemens at the beginning of the contract to be upskilled and to gain the necessary intellectual capacity to run the DOL's IS platform at the end of the project (DOC=09; 06; 07; 15; 13). Based on the challenges with competent DOL management not monitoring the project the consultants managed to expose the weakness of most of the DOL staff during the project. The conflict with SIS resulted in many DOL employees resigning who in the end was replaced with SIS/EOH consultants who had to be retained for business continuity and expertise. This led to expensive termination costs since the consultants, who had to be retained to continue running the IS platform, added more cost to the already inflated project



costs. The government salary scales were lower than what the consultants were earning, adding an astronomical wage bill to the already strained project cost. Even though the main claim related to the lack of IT internal capacity not being developed, there were other challenges that contributed equally to the deterioration of the project such as.

1. Relationship breakdown with SIS led to fewer constructive discussions and decision making forums;
2. Continuous decrease in participation at meetings made way for inadequate monitoring, accountability and delays in decisions required;
3. Lack of management involvement from the Department;
4. Lack of clear contract management to provide proper advisory and oversight function for effective execution of the contract to ensure scope and deliverables were adhered to, and compliance effected;
5. This included the failure to implement a penalty function which would penalise SIS for failure to deliver against requirements;
6. Lack of internal resources with relevant technical skills to oversee SIS deliverables as a result of the DOL IT resources being taken over by SIS as demanded in the contract.

The intention of the transfer of IT resources to SIS was for the DOL staff to shadow SIS and gain the expertise and knowledge to manage the IS platform when the contract was completed. This was shortsighted since it meant that non-ICT personnel were required to monitor and control ICT deliverables with no expertise in the field.

In addition to this, it should be noted that removing the business analysis that was contracted from the scope of work resulted in the DOL not being able to effectively identify or specify its requirements before development started. The negotiation of this activity, as well as the lack of internal resources with relevant technical skills to oversee delivery, meant that the Department lost a degree of control over the work being performed by SIS. The ‘descoping’ of these services entitled the Department to a reduction in the unitary fee. However, this failure to meet the service requirements and to agree on the status of deliverables



highlighted the lack of governance and a formal sign-off process. (DOC=01; 07; 20) In some cases, this meant that SIS was disputing with the Department as to whether or not certain service requirements could be deemed as being complete.

According to the DOL, systems such as Siyaya were delivered and provided the level of functionality required. Other systems such as Financial Management System (FMS) were delivered but a number of functional issues existed and the failure to conduct a thorough post-implementation review meant that corrective action was not taken to address the outstanding issues. The Department also identified a number of open projects including Integrated Computer Management (ICM) where critical issues existed such as the lack of integration with SAP amongst other systems, and the limited number of automated processes. In many of these cases, the Department was in on-going disputes with SIS, as no clear service validation or sign-off process existed to facilitate agreement on the completion of projects.

Legitimacy

Legitimacy claims centre around participation of the inclusion or exclusion of specific stakeholders' views in the media discourse. There is potential evidence of distortion in some of the claims for utility and accessibility when examining who is addressing the challenges of the project outcomes and the impact on the DOL. Considering who is included and excluded when experts are cited is another measure of legitimacy (Cukier et al., 2009). The fact that some were included for political reasons while others, e.g., the auditor who had no stake in the project, provided legitimacy and validity to the discourse. Based on the content analysis, it appears those certain stakeholders' perspective was more privileged in the discourse while others were not contacted and were marginalised. Most of the media reports consisted of all the high profile stakeholders' opinions, such as the labour minister and committee members on the top structure, while the opinions of office employees working on the project, e.g., business analysts, the DOL staff that was managed by SIS/EOH, had basically disappeared from voicing their opinions (DOC=01; 05). The KPMG report of 2010 noted that one of the key outcomes of this service area was the decision to utilise SAP as the



main software platform. The manner in which this system was introduced and implemented was under scrutiny as the report found a failure on the part of SIS to communicate and receive relevant authorisation from within the Department (DOC=01; 12; 20; 06).

Another key point of contention was about the purchase of software licenses and responsibility for the license costs during and after the PPP contract. Using their global agreement with SAP, SIS negotiated an enterprise suite SAP licence package without the DOL's approval (DOC=20; 04). A SAP enterprise suite licence package has an unlimited number of licence users compared to a licence per user package. SIS's intention in buying a SAP licence enterprise suite was to enable the DOL to have as many SAP users as possible under one package, therefore realising the cost saving which they would not have realised had SAP licences been procured per user. At the time, the KPMG analysis found that SIS purchased the enterprise SAP licence suite at a cost of R54m. An amount of R8m for software licences was paid as part of the unitary fee (DOC=19; 20). SIS was claiming a figure of R46m for SAP licences, which is a difference between the cost of the enterprise SAP licence suite and the R8m licence fee, as defined in the PPP. There was no invoice for the R46m submitted by SIS to the DOL.

KPMG reported that the internal observations were that SIS made use of SAP as the main operating platform; at this stage in the contract, Inspection and Enforcement (IES) system, the Compensation Fund's claims and financial systems, and the Integrated Client Database (ICD) were all being developed on the SAP platform at an advanced stage. The Intranet Portal and National Skills Fund financial system were already completed by SAP. The Department's view was that SIS undertook no adequate consultation exercise, and thus the Department was not given the opportunity to formally approve the decision (DOC=20; 17). However, it is also noted that the Department did not proactively engage in the discussion around the utilisation of SAP. Annexure 9 of the PPP contract sets out a clear governance structure to ensure that the fundamental objectives of the PPP are met and there are clear channels for communication and decision making (See Appendix 1). The agreed structure sets out roles and responsibilities for an Executive Committee, Steering Committee, Service



Management Committee and a Change Management Committee (DOC=17). The Executive Committee was required to authorise appropriate amendments and changes to the PPP contract, whilst the Service Management Committee was mandated to ensure that contracted services delivered ICT enablement to the Department's business processes, consistent with the PPP (DOC=20; 17; 11).

Another key issue noted was that the Department was still using the same software for its business productivity applications as well as the operating systems that these ran on. At the point of review, these had reached the end of life, and support for these was due to expire soon. In addition to this, it was noted that the original PPP contract had made provision for 100 laptops but this had increased to 900 laptops, thereby increasing the costs for infrastructure, support and the unitary fee.

Sincerity

Sincerity requires agreement between what is said and what is meant, or between the underlying intent and the expressed intent in the communication. Hyperbole, imagery and metaphor can support some viewpoints in the discourse even in the lack of evidence. Implied meaning has been used in the body expansively. A basic word choice could have an insightful impact on the interpretation of the speech act. Most of the articles quoted the Director General of the DOL saying "The management of the contract did not fully meet expectations, owing to the department's inability to manage the scale of the project", and described it as being "a boat that was allowed to float without direction" (DOC=10; 01; 18). This is a very valid statement considering all the challenges experienced with the delivery of a successful project. We see language with influential suggestions used to reinforce the claim about terminating the contract because of contractors' default. For example, despite the contractor's default on SIS's part, the KPMG report said a termination of the contract would prove too onerous (DOC=02; 04). For this reason, it suggested a negotiated termination since the legal route would also be costly. There were areas where the DOL could have implemented penalties, for example, the late commencement of services, said KPMG. For example they state: "*There is evidence of billing inconsistency with the*



intention of the contract” (DOC=02; 12; 19). They added that the department should review invoices and reclaim these bills. The treasury also found that a lack of contract understanding by DOL stakeholders resulted in contractual remedies not being utilised when SIS's performance was inadequate.

Comprehensibility

The semantic and syntactic accuracy of the text was the most important factor to consider for the purpose of this study, for the assessment of comprehensibility. The analysis gave a clear indication that the articles were to the point and clearly articulated. There was little evidence of violation of the comprehensibility claims, hence the media reports did not sensationalise the details of the contract failure but focused on the facts which led to the failure of the projects – such as the blatant neglect of training IT skills to manage the DOL after the project was completed; and the challenges experienced with having competent management that could have prevented the cost overruns if the contract was managed to impose the necessary penalties for non-delivery.

7.7 Discussion and conclusions

The analysis revealed communication distortions based on the fact that the media discourse represented stakeholders such as the DOL, CIO, Minister, auditors and some politicians, but end users working at the DOL using the system were not represented. The lack of end user representation was a major distortion to this discourse. Even though the media reports were congruent with the main stakeholder views, not getting the end users’ perspective leaves room for bias.

The media became part of the creation of general distortions by reporting claims factually and reinforcing those claims through loaded language. However, the media did show some caution in their reporting. Verification with the public and private sector was evident in the empirical evidence. The media’s interest in this PPP was highly visible in many press releases and the CIO and Minister were very vocal, voicing their opinions in the media.



Despite the stakeholders voicing their opinion about SIS failure to provide a fully functional and integrated system, there is little evidence that SIS provided a remedy for the lack of project success or the role they played in the failure. To SIS this was not a failure, but a breakdown in communication in a partnership. Even though SIS did not admit to failure, the fact that the DOL had to re-engage consultants to assist with the termination phase pointed to failure and distortion in the discourse. Stakeholders are not all equal to have their opinions heard in the face of the media; this may partially account for reliability and governance of the discourse despite the illogical elements exposed in the analysis.

The research indicates how the validity claims can provide a framework for assessing public discourse for PPP contracting for IS implementation, to reveal distortions. Even though the scope of this analysis was fairly small, the similarities identified are reflected in other discourses about technology (Chigona & Chigona, 2008; Cukier et al., 2009). The research illustrated the use of Habermas' validity claim to investigate media discourse. It illustrated the method by investigating media discourse to PPP contracting for ICT service delivery on IS implementation projects.



CHAPTER 8: Theoretical Reflection, Integration, Contribution Limitations and conclusion of the research

8.1 Reflections

As a researcher, the decision to embark on this research was prompted after many years of observing ICT/IS service delivery failures. These failures had a huge impact on organisational effectiveness and inefficiencies perpetuating organisational challenges instead of improving business solutions (that are expected of implementing integrated ERP solutions). The research emerged as a result of observing ERP challenges during the researcher's career of 25 years in the corporate world, having had the opportunity to observe system failures, which are due to management competency challenges and not system complexities. Human beings design and implement systems and should ultimately have the capability and competence to manage these systems ensuring the intended results are delivered.

As a researcher, my interest to embark on this research was further enhanced by organisation project sponsors that fail to search for the technical expertise that can facilitate seamless ICT/IS implementation. The organisations' choice of service providers is based on prior relationship associations, which have coined the term nepotism. Nepotism might be rife in the public sector but the private sector is not immune to this governance challenge, hence colluding with consultants has become the norm rather than the exception. Collusion has been to the detriment of achieving the goals and objectives of the organisation.

Consultants have created various complexities when implementing ERP solutions to intentionally or unintentionally generate dependency and reliance on them for continuous service delivery. This is as a result of top management putting too much power in the hands of the consultants and overlooking key in-house resources to closely monitor the consultants' performance. In most cases it is the other way around – consultants are more empowered and feel inclined to micro manage in-house resources on the project, due to fear



of being exposed. This unfortunate behaviour disempowers in-house resources since consultants are valued based on the perception of being more knowledgeable.

The researcher has taken a detailed view of this PPP contract for ICT/IS service delivery challenges that were experienced by the DOL. The aim is to contribute to the dearth of literature on PPP contracts for ICT/IS service delivery. The initial goal was to conduct one study of the failure of the PPP contract for ICT/IS service delivery between the DOL and SIS. Conversely, three studies have emerged from the research, due to the complexity of public sector PPP arrangements for ICT/IS service delivery.

It has emerged that the real value of PPP arrangements is the way in which these partnerships were managed. The value that the public sector is looking for is a fully integrated system that will increase efficiencies and develop in-house expertise and technical knowledge. Prior to engaging in such an agreement, government departments are required to complete a number of activities to ensure that a PPP contract is suitable to meeting specific requirements. This is a lengthy process, which sometimes defeats the objective of the requirements, specifically in IS implementations. ICT/IS implementations should be achieved over 18 to 24 months at the maximum to extrapolate the best value and to ensure business is aligned with the rapid changes in innovation, specifically IS.

The contract for this ICT/IS implementation was scheduled to take place during a ten-year period and it is clear case of project fatigue. The analysis of the contract and policy in empirical Study 1 pointed to the fact that the contract was weak and favoured SIS, which was confirmed by the CIO in the minutes of meetings. Management and staff of the DOL failed in managing the performance of the consultants and, from the empirical findings, it became clear that critical risk factors were not taken into account. A weak management structure in the public sector, and challenges with maintaining skilled IS resources, weakened institutional structures and created a major dependency on EOH/SIS resources. There was reluctance from the stakeholders to take part in the interview process for empirical Study 2, due to government sensitivity and political issues, but the minutes of meetings were comprehensive and gave much needed substance which corroborated the



findings in the Study 1. Empirical Study 3, which used Harbermas' four validity claims of truth, legitimacy, sincerity and comprehensibility, assisted with the analysis of the media discourse, and corroborated the findings of Studies 1 and 2 which have been reflected in the propositions in section 8.2.2.

The sections that follow provide a discussion on the theoretical integration, findings, contribution and limitations of this research.

8.2 Theoretical contribution

In this PhD thesis, the researcher set out to develop an understanding of the factors and conditions contributing to PPP ICT service failures in South Africa. The empirical setting of my investigation was the DOL ERP project; a failed attempt to implement an ERP system to support government services using a PPP; the new public management approach promoted by international institutions as a solution to inefficiencies; and resource constraints of governments. The objective of the thesis was the development of a theoretically informed understanding of the challenges of managing PPP ICT service contracts, on which improved management strategies and practices could be developed to ensure better returns on public investments in ICT services. The researchers' inquiry was informed by agency theory and used a multi-methods approach to collecting and analyzing the empirical data. Three empirical studies were designed to inquire into critical aspects of the problem, namely the DOL's PPP policy and contractual arrangements for the management of risks, management competence challenges, and perceptions about public accountability (Refer to Figure 4). For the first empirical study, the researcher used an agency theory framework to interrogate risk factors and risk management strategies addressed in the PPP policy framework and the PPP contract. For this inquiry, the researcher used agency theory and content analysis to analyze the PPP policy, the contract and relevant organizational documents to determine the preparedness of the DOL to manage the risks of the ERP implementation. In the second empirical study, the researcher interviewed key stakeholders of the DOL ERP implementation project and analyzed key meeting minutes to develop an understanding of the challenges, which the implementation managers faced during the unfolding of the



project. Finally, in the third empirical study, the researcher conducted a critical discourse analysis of the extensive media reports on the DOL PPP implementation projects to develop an understanding of the public accountability issues concerning the failure of the project.

The principal finding of this research is that while the DOL project faced challenges of institutional PPP policy, contracting framework and management competence limitations for effectively managing the project risks, the central issues were; A set of interlocking conditions, including extreme dependency on the private partner, which doomed the project to failure. To illustrate these interlocking conditions and develop a more general explanation of the empirical observations the researcher developed a causal loop modelling technique proposed by Senge (2006). The causal loop model is a useful tool for illustrating and theoretically elaborating the empirical findings. It enabled the researcher to capture and model influences of organisational conditions and responses of the organisational actors as they tried to mediate the challenges of the PPP project. The causal loop model Figure 4 is a systems analysis technique with tools for illustrating relationships among organisational conditions, their influences on actor behaviour and how these reinforce patterns of organisational activity that are supportive growth (success) or decline (failure) (Senge, 2006). Causal loop models consist of two distinct feedback processes Reinforcing (or amplifying) feedback systems are engines of growth and balancing (or stabilising) feedback systems, which operate whenever there is a goal-orientated behaviour. Reinforcing feedback can also generate accelerating decline – a pattern of decline where small drops amplify themselves into larger and larger drops. In the next section, the researcher used the causal loop modeling technique to illustrate the interlocking dynamics of the principal-agent relationship, and institutional and organisational conditions that influenced the failure of the DOL PPP ERP implementation project.

8.2.1 An explanation of the interlocking logic of the IS failure

An isolated interpretation of the findings of the individual empirical studies of the case might lead one to conclude that incompetent managers were responsible for the PPP failure (cf. newspaper reports). A critical reading of the case points to a set of interlocking



organisational conditions (policy, expertise, incentive and resource deficiencies) constraining the potential for effective management actions and successful implementation of the PPP project. However, when the empirical observations is interpreted within the wider institutional and organisational context, logic begins to emerge of interlocking organisational conditions constraining management action and influencing decisions sub-optimally to effectively manage the DOL PPP project. It becomes clear that the management, even with the lack of ERP expertise and PPP management competence, is not singularly responsible for the failure, as the news reports have suggested. The causal loop model in Figure 4, illustrates direct and indirect relationships between empirical observed organisational conditions and organisational outcomes. Organisational conditions such as lack of IT expertise and/or project management expertise, dependency on consultants, inappropriate vendor selection and lack of skilled professionals influenced organisational outcomes. Further, the causal model illustrates these inter-locking organisational dynamics that could explain the failure of the PPP initiative.

8.2.2 Organisational conditions and PPP failure

The first empirical study revealed key institutional structures, organisational policies and resources that were inadequate to support the DOL managers effectively in executing their fiduciary responsibilities with regard to managing the PPP initiative. For example, Empirical Study 1 revealed that key policy instruments (government legislation and the PPP contract) did not account for, nor offer prescriptions for, the specific risks that accrue from principal-agent relationships when information asymmetry is in favour of the agent, even though it was quite clear that this was a prevailing organisational condition of the DOL. Further, the empirical analysis of the DOL contract also revealed that no provision was made for the effective management of specific risks that accrue from principal-agent relationships. For example, the DOL contract did not specify risk mitigation mechanisms for the following common principal-agent risks: lack of performance monitoring, inappropriate vendor selection, lack of competent management and skilled IS resources, moral hazard and strategic planning.



The results from the first study prompted Empirical Study 2 in which interviews were conducted with key stakeholders and minutes of meetings were perused for the challenges of the PPP contract for ICT/IS service delivery. The interview responses corroborated the findings of Study 1 – that risk mitigation strategies were not in place and that there was a major challenge with mitigating risk. Challenges with risk mitigation created a huge dependency on consultants resulting in inflated project cost and tainting the viability of the project. Empirical Study 3 which analysed the media discoursed corroborated the empirical finding of the first two studies which contributed to the failure of the implementation. The DOL contract did not include any incentive structures to assist in the effective management of performance, as admonished by researchers of such principal-agent relationships in ICT contracting services (Ngwenyama & Bryson, 1999; Osei-Bryson & Ngwenyama, 2006; Sullivan & Ngwenyama, 2005; Ngwenyama & Sullivan, 2007; Bryson & Ngwenyama, 2000).

Systemic models can be enablers to demonstrate combined, systemic planning in relation to the realisation of goals and expected outcomes. Often PPP project proposals may not clearly specify the relationship shared among resources, planned activities/outputs, and the benefits expected from the PPP project. The systemic model can be useful in the magnitude to which the PPP project has made an impact, or how it can make a difference.

The detailed features of a causal loop model are enablers to illustrate the associations amid the mechanisms of the PPP IS implementation. A model provides a collective vocabulary to describe elements of the PPP contract in a way that encourages deeper understanding of the challenges that are experienced and highlights the dependency on consultants who challenge international best practice. Causal loop modelling could be a transformation tool for PPP managers in the way of solving PPP-related problems systemically (Senge, 2006).

The new model characterises an effective concept that will allow for better communication of the expected results of managing a successful PPP contract ICT service delivery. It represents a strategic view of staff and other stakeholders' input into the preparation phase, with the intention to produce the expected results through utilising input of these resources.



Furthermore, the causal loop model for PPP contracting is beneficial in focusing accomplishments and in clarifying how each is expected to contribute to the expected results.

Through integrating PPP contract elements, actions and resources in an explicit model format, PPP stakeholders are better able to monitor the progress of IS implementation with regard to the most important project objectives. Systemic models inspire practical project planning and enable investors to visualise what can reasonably be expected from the implementation of the planned activities and the delivery of intended outputs. This approach is also extended to risk management of large and complex construction projects (Wibowo & Patria, 2007).

According to McNamara (2006), systemic modelling is a tool that helps to consolidate the relationship between major project activities and expected outcomes. It can be effective in planning a PPP project design, implementing project deliverables, and evaluating project success. It should be noted that while a systemic model demonstrates the relationships shared by PPP project fundamentals, such as expected outcomes, variations, or impact that could be derived through the project processes, a systemic model does not take the place of the performance indicators within a PPP project context.

The theoretical understanding is based on the empirical findings of the initial configuration of the nomological net and the empirical conclusions have been formalised by reviewing the institutional the framework with specific reference to the five risk factors (See Table 4).

Further, due to the non-linearity of the interactions, the causal loop model (Refer to Figure 4) is an appropriate tool for illustrating the dynamics of influences in the case situation.

This diagram shows a reinforcing feedback process wherein actions snowball and a balancing feedback process starts with the discrepancy between what is desired and what exists.

The tendering process is enforced by government legislation and is intended to be open and transparent. Whether the process is followed and enforced remains questionable. The bidder



should prove their knowledge in relation to their technical capability, financial standing and knowledge management. Siemens had the financial standing and commercial exposure but lacked technical expertise. It was brought to light that during the project implementation, EOH was performing the work at the DOL for which Siemens had been appointed. Siemens indicated that they were taken over by EOH, the reason for EOH being the main service provider. This begged the question whether Siemens was selected based on technical expertise or merely commercial exposure, which, in fact, nullifies the tendering process. The fact that SIS was not held accountable for breaching the tendering process encouraged their iniquitous behaviour.

There is a large body of literature which argues that management failure is often not the result of irrational or incompetent individual actions, but a complex web of organisational conditions (Ghoshal & Bartlett, 1994; Ulrich & Lake, 1991; Brunsson, 1982; Lyles & Schwenk, 1992; Hyvari, 2006; Kanter, 1989; Weick, 1993). For example, Lyles and Schwenk (1992) argue that when organisational policy instruments do not address strategic objectives, managers are unlikely to reach their goals.

The causal loop model/ feedback systems are numbered one to four starting with an introduction to the legislation and tendering process, which is now explained.

1. The lack of the DOL's commercial and technical experience increased dependency on SIS since DOL was unable to define performance measures. Siemens was not the appropriate vendor for this projects due to lack of technical knowledge, hence the need for EOH to manage the implementation. The CIO of DOL state: *"Siemens is a global company that specialised in providing machines and boxes, and did not develop systems. Ten years in the IT sphere is being regarded as too long since it is such a dynamic and changing environment"*. An inefficient public management system and lack of skilled managers allowed Siemens to renege on meeting critical goals and deadlines. The belief that Siemens had superior knowledge and expertise increased the DOL's dependence on them as a service provider. The fact that SIS undermined the entire implementation points to the weak management and lack of expert IT resources that failed to point out



shortcomings on project deliverables.

2. The challenge of information asymmetry that exists is hidden information and hidden action. In the former, it was perceived that SIS had superior knowledge to the DOL and this would have affected the governance aspect of this implementation. The fact that SIS actions could not be observed or monitored was the other challenge. Hidden action and hidden information are closely related to the possibilities of adverse selection and moral hazard, respectively. It also appeared the DOL did not have a handle on the consultants day-to-day performance based on asymmetry of information, and could not monitor the activities of the consultants. The challenge with the project scope not being defined and managed was another inability of the DOL's lack of training and expertise to manage an IT implementation of this nature with limited expert resources. Challenges with monitoring and governance of the project posed many challenges for the success of the project, further increasing the DOL dependence.
3. The attrition of key the DOL staff that was supposed to be trained by SIS created a deepened dependence on SIS. The erosion of key IT resources destroyed internal capacity which reduced input levels, leading to lack of skilled management being trained to manage the termination process. With SIS controlling the project, moral hazard affected the project success, since the efforts of the agent could not be observed by the principal, resulting in further monitoring problems. The attrition of staff slowed down continuity, reinforcing dependency on consultants.
4. The challenges experienced with input levels had a snowball effect on the project cost overruns and the quality of the project deliverables. The fact that consultants were left to run rampant with the project by replacing the DOL staff with consultants at inflated salaries increased moral hazard. DOL incurred further cost when they had to take on the Siemens staff in terms of Section 197 of the Labour Relations Act. These challenges destroyed the expected benefits of the PPP contract and the loss of social surplus was enhanced. Taking over the Siemens/EOH staff meant that they were going to be paid the salaries they had been earning as consultants which was higher than the salary scales offered by government, further exploiting the public sector's already depleted budget.



The IS implementation for the Department of Labour did not meet with the time and cost goals that were established by risks identified in the agency theory framework. Sterman (1992) state, that several large projects do not meet their time and cost goals, and if projects are not well defined, complexities that are difficult to manage set in, which was experiences on this project. Project manager researchers (Rodrigues and Bowers 1996, Williams 1999, Love, Edwards & Irani, 2012) state that the project goals are often not realised, and that the project management concepts and tools utilised today are too linear and rigid. The systems available for project management are too complex and unstable and contain much unpredictability that is difficult to manage effectively by the linear, rigid tools that focus on one aspect of the system periodically. These researchers have suggested that system dynamics ideas and tools, such as causal loop diagrams and detailed model, should be integrated into PPP contracting for ICT/IS service delivery. This should allow project managers to get a global perspective of the structures of the system in which project management is utilised and potentially provide better planning and control over projects.

A systemic model (refer to in Figure 4) is a graphical technique of representing associations between project resources, activities, outputs and results. Systemic models are scheduling, implementation and monitoring tools that stipulate the resources a PPP project will employ, to conduct activities that are intended to produce detailed, definite and measurable changes, or results in individuals, organisations, or the more comprehensive physical and public environment (Senge, 2006).

It is imperative to have an understanding of the context in which the PPP projects were studied, how they were developed and what basic assumptions and purpose of the project is designed to have an impact on. There are very precise terms used in systemic modelling that assist with establishing a mutual foundation for describing and understanding a PPP project process.



The main theoretical contribution is addressed in the propositions using agency theory as a guideline, clarifying the risk presented during the contractual phase. The research followed an agency theory perspective and the nomological net (See Figure 1) assisted the researcher to clarify any integrated aspects that would assist with the suggestions of future PPP contracting for ICT service delivery in the information systems domain. The principles from the extant literature integrated what emerged from the individual studies and provided a cohesive and coherent theoretical understanding. The connection of the empirical findings from each study and their connection emphasises the nomological net that makes explicit the applicability of agency theory in the theoretical elaboration.

The research, through the findings of the three empirical studies, made specific contributions in other areas. It connected the media and stakeholders' perspective and provided clear indications on where challenges were experienced and what contributed to the project failing. It enforced the reason for investigating a research project by using different data sources, taking into account the media's views, different stakeholder perspectives as well as documents that were the foundations of starting the contract. The researcher identified several specific factors that are critical to PPP contracting for ICT service delivery success in the future. Firstly, the retention and training of relevant IS resources. Secondly, the development of key management competencies and the selection of a vendor with appropriate skills. Thirdly, having a revolving strategic plan and ensuring that there is competent management to monitor and manage the project exclusively, without losing focus of day-to-day business or critical project delivery deadlines.

Using an agency theory framework, the researcher highlights the interactive processes that are required when engaging in PPP contracting for ICT service delivery for information systems implementations. The proposed framework, unlike the existing generic PPP model, conceptualises the critical steps that need to be considered when PPP contracts are being



negotiated and the various stages that need to be re-evaluated and adjusted, as they are unfolding. The 'one size fits all' PPP procurement model for successful PPP contracting for ICT service delivery in the information systems domain cannot be taken for granted.

The empirical analysis in Chapters five to seven provides evidence that the agent was in a superior position from the start of the contract. Organisations are dynamic; therefore, vendor experience and expertise should have been verified before the contract was granted. Large IS projects are difficult to monitor, particularly if they are longer than three years. It is a challenge to know whether things are going well during an implementation, until ultimate abandonment and failure (Oakeshott, 1962).

The above discussion leads to the following propositions, which have been derived from, a holistic reflection of the three studies conducted in this research.

***PI:** When public sector managers lack expert knowledge of the work to be contracted out, they are highly likely to inadequately specify the contractual obligations of the external consultants/vendors engaged to perform the work.*

Based on the empirical evidence, management's lack of knowledge of ICT services had a major impact on the success of the contract. The lack of skilled managers and IT professionals in the public sector is a major challenge when contracts for ICT services are crafted. This has resulted in contractual obligations not being specified or action taken by consultants. The effect of this has been that consultants' performance was not adequately managed and has given consultants a gateway to behave opportunistically. Consultants' opportunistic behaviour is a direct result stemming from the realisation that there is a skills challenge and lack of competent management in the public sector. Lack of expert knowledge influences good decision making, affecting the choice of an appropriate vendor who could have managed the contract seamlessly. Some



researchers have indicated that the key goal to ensure successful PPP contracting requires legal and technical experts to design contracts that are clear and comprehensive, so as to avoid the likelihood of failure which leads to renegotiation (Marques & Berg, 2011; Klein, 1998; Lane, 1997). Klein (1998) reiterates that it is essential to design contracts resistant to renegotiation and which can be adjusted to changing circumstances without undermining the original terms of the contract. Klein (1998) further defines specifications of a contract as problematic; even when the greatest of care is taken when drafting a contract, certain aspects will be left out, resulting in all contingencies not being covered, leading to loopholes in the contract. The proposition below has been developed based on the previous discussion.

P2: When public sector managers lack expert knowledge of the work to be contracted out, they are unable to define risk factors, risk mitigation strategies and performance measures to effectively manage the performance of external consultants/vendors.

The proposition derived from the empirical analysis is corroborated in the content of the literature and the empirical evidence. The fact that the contract for ICT service did not adequately specify risk factors and risk mitigation strategies to effectively manage the private sector's performance contributed mostly to the failure.

Opportunism, which is a major risk factor in an ICT service delivery, seems to have played a definitive role in the failure of the contract. The most important displays of opportunism are *moral hazard*, *adverse selection* and *flawed guarantee*. Moral hazard results from the fact that it is impossible for the public sector to observe the private sectors performance since ethical challenges are difficult to detect, without incurring unreasonable costs. Moral hazard is not obvious during the implementation of the contract since loophole that exists arise opportunistically if the project is not monitored diligently. Adverse selection is the result of not



being able to monitor the private sector's performance. Failure to address adverse selection challenges the role of the public sector to make wise choices in partnerships (Jensen, 2003). The public sector will have to be trained to handle adverse selection problems or 'ex ante' contractual opportunism, since the private sector might sue the public sector for contract violation rather than correct the supply, when faced with criticism for non-delivery (Gottlieb & Moreira, 2013).

P3: When public sector managers lack expert knowledge of the work to be contracted out, there is a high likelihood of selecting unqualified consultants/ vendors and increased chances of project failure.

The empirical evidence has proven that Siemens was chosen because of commercial exposure and was not necessarily based on sound technical skills. During the *ex-ante* contractual period, selecting a right vendor through tendering is the most important priority. The factors that might result in the failure of this process are automatic selection due to nepotism and political favouring; sometimes adverse selection in cases where the agent misrepresents their skills, since a complete verification of agent skills cannot be done at the stage of hiring or the early stages of implementation (Eishenhardt, 1989). Dibbern, Brehm and Heinzl (2002) state that the agent is selected based on the business image and years of commercial experience, they provided to previous EPR implementations. This influences the principle's decision to choose them, thus constituting the core of what can be concealed or misrepresented. Knowledge that can be misrepresented is that of IS infrastructure required, configuration knowledge and integration with legacy systems (Violino & Caldwell, 1998). Some of the concerns are that there is lack of incentives for workers in the public sector to promote accountability and transparency, hence the fact that they shirk on pointing out when the private sector misrepresents or reneges on objectives that should be achieved. Another challenge that allows the public sector to being



misled is that of the retention of skilled IT professionals, placing a huge dependency on the private sector. The proposition below is developed in light of the above discussion.

***P4:** When public sector managers lack expert knowledge of, and competence for, managing the work to be contracted out, and they are dependent upon external consultants/vendors for the expertise, this undermines their capacity to secure the public interest.*

The fact that the DOL transferred all staff to Siemens was shortsighted, leaving the DOL vulnerable and exposed. The DOL staff retention strategy was dismal, there was no existent leadership, they had three CIOs for the duration of the contract, and Siemens consultants mainly filled the technical environment as well as the external supply environment, since they had taken over the DOL staff. As staff turnover occurred, continuity in capability was lost and expertise was eroded in the DOL. The subject of skills retention in contractual arrangements has received little attention (Willcocks et al., 1999). In the UK it has been observed that the public sector keep staff in a 'residual' function in order to maintain IT governance and contractual monitoring to ensure active engagement with the private sector on their responsibilities (Fitzgerald & Willcocks, 1994). Feeny and Willcocks (1998) show the need to mitigate risks relating to resourcing of skilled IT professionals by ensuring there are resources in the four phases of IT function, i.e., governance and elicitation; delivery of IS requirements; maintaining the technical base; and managing external supply with nine capabilities and their underlying skills. These nine capabilities are leadership, informed buying (governance); relationship building, business systems thinking (business face); technical architecture, making technology work (technical face), contract facilitation, contract monitoring and vendor development (external supply face) (Lacity & Willcocks, 2000). As Willcocks and Currie (1997) and Feeny and Willcocks (1998)



observe in other cases, if capabilities erode and consultants take over responsibility of the principal by rationalising it as part of the ‘strategic relationship’, it becomes a high risk factor. The depletion of critical skills due to attrition, politics and principal-agent frustration was detrimental to the termination phase and success of this project. To assist with skills retention, Feeny and Willcocks (1998) suggest that the different types of skills and knowledge need to be spread throughout the nine capabilities mentioned above to assist with skills retention. The proposition below was developed because if IT skills are harnessed and competent management is operational, ethical threat can be limited.

P5: When public sector managers lack expert knowledge and competence for managing the work to be contracted out and they are dependent on external consultants/agents for their expertise, their ability to effectively manage the external consultants/agents is undermined.

The public sector was able to observe certain outputs of the PPP for ICT/IS services but, in the case of low output, they were not able to determine whether it related to low-level effort on the part of the private party, or moral hazard. The public sector itself represented a source of risk based on their dependency on the consultants. Lack of experience or expertise of the public sector is a major risk factor, specifically for ICT service. The public sector engaged the private sector for the delivery of ICT services, due to lack of experience and resources to manage the IS domain. When a contract is signed, the public sector should ensure all clauses are in the contract and are being monitored, e.g., controls and penalties that could limit but generally not prevent the ability of the private sector to indulge in corruption (de Palma et al., 2009). Tuttle, Harrelland Harrison, (1997) have indicated that the moral hazard construct is central to agency theory and provides the basis for assertions of agency theory regarding goal-congruent behaviour. Shirking



includes actions and behaviours inconsistent with the goals of the principal. The two greatest challenges of shirking in contractual relationships exist. First, the agent's avoidance of contractual obligations when the principal is not vigilant to use adequate monitoring mechanisms while the agent has a motive to capitalise on profits. Second, the agent misrepresents the facts and challenges to protect reputation and avoid reprimand by the principal (de Palma et al., 2009).

8.3 Contribution to Practices

The risks that influenced the success of this project were mainly related to management competence and the retention of skilled IT resources. The empirical analysis has indicated that the effective management of the contractual obligations by the principal could have ensured the successful execution of the contract. If penalties for non-performance against the agent had been imposed and IS capacity, planning had been a priority it could have curbed the contract failures.

The structuring of the contract showed many gaps, specifically in the area of risk mitigation, as well as challenges with the lengthy procurement process, which created institutional bottlenecks. As Drake and Moberg (1986) and Ngwenyama and Nielsen (2014) point out, the agent has five important sources of power and influence – legislative authority over the target, the ability to reward, the ability to coerce, expert knowledge and control of the target's critical activities. The lack of public vigilance is what allows the private sector to reduce their input level, which may influence project cost and quality and lead to moral hazard (Gottlieb & Moreira, 2013). Moral hazard is a strategic behaviour that refers to the endogenous variables of the private sector that cannot be observed by the public sector. With the use of Habermasian concepts of ideal speech and the four validity claims of truth, sincerity, legitimacy and comprehensibility, further understanding was provided to some of the arguments that various actors in the public discourse made to explain the issues of skills retention and management competencies influencing the success of the PPP initiative.



Based on the findings from the three studies, the researcher proposes a new model for formulating PPP contracts for ICT/IS service delivery. Figure 5 below provides an illustration of the framework and the concepts to be embedded in a successful PPP contract.

Level 1: PPP success and sustainability will produce benefits when the business environment is conducive to transparency; accountability and governance at the beginning limit corrupt practices. Risk allocation has a direct financial influence on the project; it could result in lower overall project costs and will provide enhanced value-for-money when compared to outdated procurement options. The allocation of risk management and risk management strategies should reflect the specific characteristics of the project and the strengths of each party.

Level 2: The Legal framework at all intervals, or legal indecision, due to non-existent and incomplete legal frameworks, can delay successful project implementation. This results in project delays in implementation and poor results due to the lack of effective project management and monitoring process.

Level 3: Governments face major challenges when awarding PPP contracts due to the ‘*ex ante*’ contractual strategic behaviours that exist, such as adverse selection (sometimes-automatic selection) when having to select the most suitable consultant for a contract. This can be disallowed if independent observers manage the tendering process. It will prevent moral hazard ‘*ex post*’ contractual strategic behaviour playing out after the contract is awarded, which is inconsistent with clauses in the contract that create opportunities for consultants to shirk. The aim to get the institutional environment on track will be to ensure strategic behaviours and information asymmetry is managed from the tendering process, to avoid dependencies on consultants.



Level 4: The more complex the project and the involvement of local and international stakeholders, the easier it is for corrupt practices to go unnoticed. The escalation of such practices can jeopardise the long-term financial feasibility of the project. Performance monitoring is a major component to minimise cost overruns, specifically monitoring resources and project implementation cost. Penalties need to be imposed as stipulated in the agreement and salary scales need to stay aligned with government structures.

Figure 5 is a proposed conceptual framework for successful PPP contracting for ICT/IS service delivery; it sets out the processes to follow to achieve success. The fact that the bidding or tender process must be without bias will be the first goal in achieving success with PPP contracts for IS implementation between the public and private sector. IS implementations are generally complex activities calling for coordination from all stakeholders involved (Markus et al., 2000). The coordination between the implementation partners, the public and private sector in this case, deserves special attention because many partnerships have reported having conflicts (sometimes severe) with IT professionals and private sector service providers, especially over contractual provisions (e.g., pricing and billing arrangements) and project directions (e.g., project management) (Basu & Lederer, 2004). Empirical evidence from this research suggested that it was challenges with risk factors that affected the project success. Contracting out information systems implementations to a consultant is the principal-agent relationship at its clearest, with a written contract binding the parties (Phelps, 1996). With the private partner as the agent and the public sector representing the principal, typical agency problems are expected to be evident in their relationship. Tuttle, Harrell and Harrison (1997) have established that private sector IS professionals are inclined to implement IS systems with quality problems resulting in ethical threat. In a decision-making experiment Tuttle et al., (1997) examined the effects of ethical threat posed by IS professionals; whether they intentionally implement a system with quality problems in order to benefit from it in the long term, or whether they ensure long term



employment due to ignorance of the principal. Tuttle et al., (1997) concluded that IS professionals who experience conditions of ethical threat would exhibit propensity to implement a system with quality problems rather than those who respect ethics and governance.

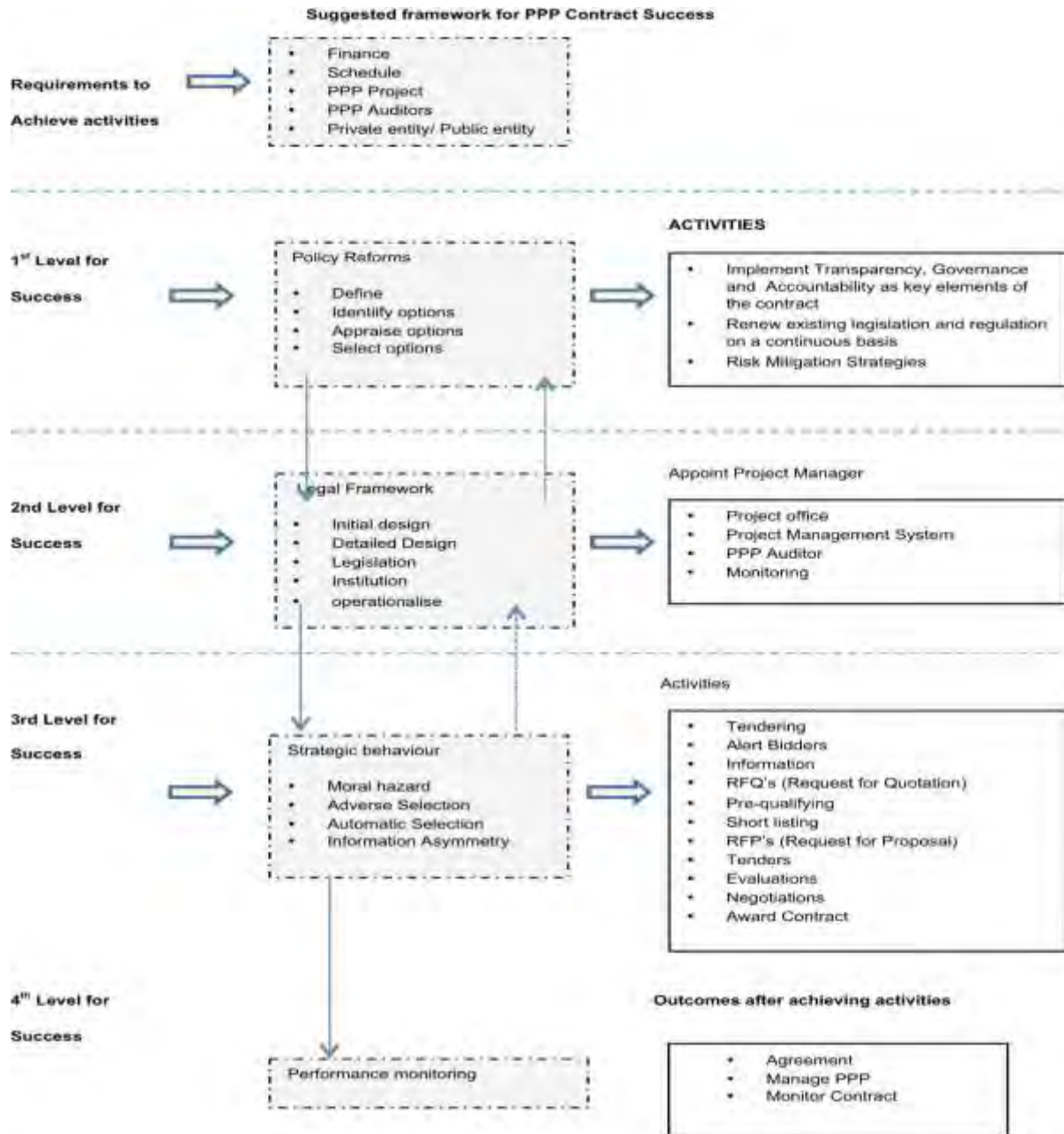


Figure 5: PPP contract Processes – Integration model, Source: Adopted and extended from (Williamson, 2000)



8.4 Limitations of this research

While conducting the empirical studies the researcher discovered that PPPs are joint ventures in which a government agency commits to a long-term relationship with a private-sector vendor (or consortium) to share investments, risks and rewards to build and run a public-sector programme. Unlike traditional outsourcing or performance-based contracts, PPP contracts are based on a model of shared benefit and shared risk. The degree of risk involved for both the public and the private partners is very much based on the type of PPP contract put in place.

Even though there are many other methods, South Africa has not made use of them. Design Build Finance Operate Transfer (DBFOT) worked for the successful execution of the Gautrain; however, it does not mean it will work for ICT/IS service delivery. Lack of accountability by the private sector and low level of efficiency from the public sector to monitor the private sector's performance have resulted in opportunistic bargaining and shirking on the private sector side. In addition, the lack of management competence and capacity planning for expert resources for skills retention by the public sector in the IS domain posed a serious risk and threat to the project success. This resulted in high project costs overruns and the need for further expenditure for termination support after the completion of the contract. Transparency is significantly important in ensuring selecting the relatively optimal contractor and deterring corruption in the tendering process, but sometimes cannot fully combat strategic behaviours such as contractual perils. Project preparation is also extremely important because it may help reduce the risks of cost and schedule overruns. Project should not start until the entire requirements and approvals are ready.

As the Department's PPP contract with SIS involved elements of design, build finance, operate, transfer (DBFOT), it is evident that a high degree of risk was involved with no maintenance factored into the model. This shared risk and benefit model (DBFOT) requires careful management, which starts from an understanding of the purpose of PPP models, and the benefits



that should be derived. Gaps in existing institutional mechanisms have become obstacles in providing the appropriate environment for applying innovative procurement models. Some of the limitations are the inherent inconsistency of the existing legislations and regulations. For instance, the blurry responsibility and boundaries of the regulatory authority constitute inherent inconsistency. Other limitations are; the lack of transparency; adverse selection, and moral hazard that result in PPPs not being favourable for government contracting.

8.5 Recommendation for future research

Further systemic research should be conducted relative to the causal interrelationships for the various PPP contracts, specifically ICT/IS for ERP implementations. A comparative study on transaction costs of PPPs for ICT/IS between South Africa and other countries in Africa, Europe and Australia should be investigated and analysed, and it is recommended that the PPP unit implement sector-specific studies that seek to compare performance across PPP and non-PPP contracts. Risk management should ensure a fair allocation and monitoring system, and avoid the tendency to transfer risks after contracts have been signed.

Researchers need to examine the processes that need systemic improvement to facilitate PPP ICT service delivery. The PPP unit can implement systemic strategies in the PPP procurement processes, since there is a need for government departments to build and sustain capacity, to ensure IS professionals and skilled management in the public sector. It is necessary to adopt a project management approach in the implementation of PPP projects in South Africa at all levels. Where appropriate, the use of PPPs should be adopted as an alternative procurement strategy, since the research findings indicate PPPs require more responsibility of risk management cost transferred to the private sector.



There is a need for training in project management, skills for accounting officers, management skilled IS resources and other staff, in order to be able to conceptualise viable PPPs for ICT service and add value to the successful delivery of projects in the future. Empirical evidence from the study shows that the costliness of PPP projects is due to government budgetary and inadequate financial controls, as well as competent management and the retention of skilled and professional IS resources.

Risk should be shared rather than transferred, since ineffective risk, distribution can lead to huge financial losses and renegotiation of PPP contracts for ICT/IS service delivery. The research findings show that the existing PPP policy framework and guidelines in South Africa are, however, adequate, apart from the risk factors and mitigation strategies not being specified. If interpreted and applied, risk factors and mitigation strategies can be a catalyst for increase public sector efficiencies. There is a requirement for sustained PPP awareness, public awareness and involvement of taxpayers in selection of PPP contractors, as a fundamental tool to mainstream the success of the PPPs for ICT/IS service in South Africa and beyond.



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Appendix 1: List of Empirical Material

Study #	Empirical Materials
Study 1	Terms and Conditions Service level agreement the DOL and SIS
	Annexure 1 -Department's Business Objectives
	Annexure 2 –DOL Business Requirements
	Annexure 3 -Services
	Annexure 4 -Letter of Support & Parent Company Guarantee
	Annexure 5 -Business Continuity & Disaster Recovery
	Annexure 6 - Standards & Regulations
	Annexure 7 - BEE
	Annexure 8 - Service & Agreement Change Management
	Annexure 9 - Service & Agreement Management
	Annexure 10 - Financial & Commercial
	Annexure 11 - Transferring Employees
	Annexure 12 - Exit & Service Transfer
	Annexure 13 - Premises and Service Sites
	Annexure 14 - Insurance
Annexure 15 - Legacy Assets et al	



Appendix 2: List of Empirical Material

Study #	<i>Empirical Materials = Interviews and Minutes</i>
Study 2	DOC=01 Minutes of Meetings
	Transcript 1
	Transcript 2
	Transcript 3
	Transcript 4
	Transcript 5
	Transcript 6



Study 2			
Interview Questions for Appendix 2			
	Question	Justification	Theoretical Perspective
1.	Why is it necessary for an organisation to ensure that the appropriate vendor is selected to perform the project?	The process elements of a phenomenon are key components of agency theory (Jensen & Meckling, 1976).	Clarifies the agent/principal relationship during the tendering phase of the contract.
2.	Can you describe what in your view should the criteria be that is applied for vendor selection for Information Systems implementations?	The process elements of a phenomenon are key components of agency theory (Jensen & Meckling, 1976).	Identifies the agent/principal objectives and deliverables.
3.	What performance monitoring systems should be in place to monitor the project?	Consequence and outcomes of a phenomenon are an important part of theory (Jensen & Meckling, 1976).	Identifies the agent/principal objectives and deliverables.
4.	Can you describe what would have been a good retention strategy for scarce IS skills?	Clarification of the contract stipulation regarding skills retention and alignment of goals (Eisenhardt, 1988).	Identifies the agent/principal objectives and deliverables.
5.	What do you think were the fundamental issues for not having a skills retention strategy in place?	Clarify the contextual parameters of the contract and measurement for incentives (Jensen & Meckling, 1976).	Identifies the agent/principal objectives and deliverables.
6.	What do you believe the role of management should be throughout the project life cycle?	Clarify the contextual parameters of the contract and measurement for incentives (Jensen & Meckling, 1976).	Identifies the agent/principal objectives and deliverables.
7.	What do you think were the challenges that influenced management competencies?	Clarification of behaviour and goal alignment (Demski & Feltham, 1978).	Identifies the agent/principal objectives and deliverables.
8.	What consequence management in your opinion should have been put in place?	Consequence and outcomes of a phenomenon are an important part of theory (Jensen & Meckling, 1976; Demski & Feltham, 1978).	Identifies the agent/principal objectives and deliverables.
9.	What in your opinion do you believe should be the benefits of good contract management?	Consequences and outcomes of a phenomenon are an important part of agency theory (Jensen & Meckling, 1976; Fama & Jensen, 1983).	Identifies the agent/principal objectives and deliverables.
9.	What could have been done to manage cost overruns?	Consequences and outcomes of large contracts plagued by cost overrun (Dewatripont & Legros, 2005).	Identifies the consequences of cost overrun.
10.	Do you believe the project was a success or failure, and why?	Contextual parameters of system design and outcomes (Bostrom & Heinen, 1977).	Identifies the context in which the project was designed and managed.



Appendix 3: List of Empirical Material

Study3	Media Reports Analysed: Source: Researcher
	DOC=01: Department of Labour briefing on progress made with Information Communication Technology (ICT) transition. 10 Sep 2013. Mr T Godi (APC). http://www.pmg.org.za/report/20130910 : accessed 23 February 2014.
	DOC=02: Labour Department ICT and data cost R2-billion. Edmund Furter July 2012 http://sheqafrica.com/dol-ict-siemens/ : website access 23 February 2014
	DOC=03: Department of Labour has little to show for R1.9 billion IT Public Private Partnership. Sejamothopo Motau, Shadow Minister of Labour. 7 March 2012: http://www.da.org.za/newsroom.htm?action=view-news-item&id=10395 : website access 23 February 2014
	DOC=04: DOL, Siemens to split. Farzana Rasool, ITWeb IT in Government Editor. Johannesburg, 10 Feb 2011: http://www.itweb.co.za/?option=com_content&view=article&id=40995 : 23 February 2014
	DOC=05: IT tender alert for labour department. Gareth Vorster. 25 October 2012 http://businesstech.co.za/news/government/25013/it-tender-alert-for-labour-department/ : 23 February 2014
	EO06: Labour Department takes over EOH staff. By Nicola Mawson, ITWeb deputy news editor. Johannesburg, 18 February 2014 http://www.itweb.co.za/index.php?option=" : 23 February 2014
	DOC=07: DoL's ICT wage bill to balloon as it absorbs contract staff. Natasha Odendaal: 11 September 2013 http://www.engineeringnews.co.za/article/dols-ict-wage-bill-to-balloon-as-it-absorbs-contract-staff-2013-09-11 : accessed 23 February 2014
	DOC=08: Labour, Siemens part ways for future growth. Audra Mahlong. 24 Oct 2012. http://sainews.co.za/e-government/labour-siemens-future-growth/ : accessed 23 February 2014
	DOC=09: Department on a recruitment drive for ICT skills. Lloyd Ramutloa. 13 February 2013. http://www.labour.gov.za/DOL/media-desk/media-statements/2013/department-on-a-recruitment-drive-for-ict-skills : accessed. 23 February 2014.
	DOC=10: Department of labour and Siemens to split in South Africa. Issue no. 541. 11 February 2011 http://www.balancingact-africa.com/news/en/issue-no-541/computing/department-of-labour/en : accessed. 23 February 2014
	DOC=11: Labour Department: Siemens failed us. 09 February, 2011. http://www.timeslive.co.za/scitech/2011/02/09/labour-department-siemens-failed-us : accessed 23 February 2014
	DOC=12: DOL EOH contract termination becomes costly divorce. Edmond Furter. 11 September 2013. http://sheqafrica.com/dol-eoh-contract/ : accessed 23 February 2014
	DOC=13: Department faces huge ICT wage bill. Lloyd Ramutloa. 10 September 2013. http://www.labour.gov.za/DOL/media-desk/media-statements/2013/department-faces-huge-ict-wage-bill : accessed 24 February 2014
	DOC=14: SA: Statement by the Department of Labour, DoL faces huge ICT wage bill. 11 September 2013. creamer media report. http://www.polity.org.za/article/sa-statement-by-the-department-of-labour-dol-faces-huge-ict-wage-bill-11092013-2013-09-11 : accessed 23 February 2014
	DOC=15: Labour to clear "misconceptions" on Siemens partnership. Audra Mahlong. 23 Oct 2012. http://sainews.co.za/e-government/labour-clear-misconceptions-siemens/ : accessed 23 February 2014
	DOC=16: More costs for R2bn labour contract. Farzana Rasool, ITWeb IT in Government Editor. Johannesburg, 8 Nov 2012. http://www.itweb.co.za/index.php?option=com_content&view=article&id=59889 : accessed 23 February 2014
	DOC=17: Siemens, Department of Labour set a trend for ICT PPPs. Posted by IT-Online on Jul 3, 2009. http://it-online.co.za/2009/07/03/siemens-department-of-labour-set-a-trend-for-ict-ppps/ : accessed 23 February 2014
	DOC=18: Department of Labour PPP agreement clarification. Press release issued by EOH. 15 February 2013. http://www.itweb.co.za/index.php?option=com_content&view=article&id=61772 : accessed 23 February 2014
	DOC=19: Department of Labour unveils a new ICT Strategy to propel the department into apex. Lloyd Ramutloa. 2 October 2012. http://www.labour.gov.za/DOL/media-desk/media-statements/2012/department-of-labour-unveils-a-new-ict-strategy-to-propel-the-department-into-apex : accessed 23 February 2013
	DOC=20: R800m bill for labour department's IT services. Babalo Ndenze. 30 April 2013. Accessed 7 April 2014 http://www.iol.co.za/news/politics/r800m-bill-for-labour-department-s-it-services-1.1508593



Appendix 4: Ethics Approval Letter

UNIVERSITY OF CAPE TOWN



Faculty of Commerce
Ethics in Research Committee

Courier: Room 2.21 Leslie Commerce Building Upper Campus University of Cape Town

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November 8, 2014

Information Systems

Project title: Public Private Partnership (PPP) contracts for Information Communication Technology (ICT) Service Delivery: A South African Case Study

Dear Researcher,

This letter serves to confirm that this project as described in your submitted protocol has been approved.

Please note that if you make any substantial change in your research procedure that could affect the experiences of the participants, you must submit a revised protocol to the Committee for approval.

Regards,

Harold Kincaid

Professor Harold Kincaid
Commerce Faculty Ethics in Research Committee



Ethics Application Form



UNIVERSITY OF CAPE TOWN
FACULTY OF COMMERCE
Igniting Knowledge and Opportunity



Commerce Faculty Ethics in Research Committee

Updated Ethics in Research Form January 2014

Any individual in the Faculty of Commerce at the University of Cape Town undertaking any research that involves the use of human subjects, or research that may hold ethical consequences for the University of Cape Town, is required to complete this form. The completed form should be submitted to departmental Ethics Committee representatives for submission to the Commerce Faculty Ethics in Research Committee

PLEASE TAKE NOTE OF THE FOLLOWING REQUIREMENTS:

1. **All sections** of this form must be completed
2. This form should be completed **electronically** and emailed to your departmental Ethics Committee representative in the Commerce Faculty Ethics in Research Committee
3. **To select the various options please double click the appropriate box and select the option 'checked' under the heading default options – then click 'ok'**
4. You should include your **electronic signature** under section 8
5. You are required to **attach** your research proposal, questionnaire(s) with cover letter(s), informed consent forms, organisational consent documentation, and/or interview schedules
6. **NO RESEARCH CAN BE CONDUCTED UNLESS YOU HAVE RECEIVED ETHICAL APPROVAL FROM YOUR EIR REP**

1. PROJECT DETAILS

Project title: Public Private Partnership (PPP) contracts for Information Communication Technology (ICT) Service Delivery: A south African Case Study



Principal Researcher/s:	Rene Albertus	Email address(es):	Rene.albertus@gmail.com
Research Supervisor:	Ojelanki Ngwenyama	Email address(es):	Ojelanki@ryerson.ca
Co-researcher(s): Irwin Brown		Email address(es):	Irwin.Brown@uct.ac.za

Data collection: (please select by double clicking the box which you would like to select – and clicking the default value - checked option)

- Interviews
 Questionnaire
 Experiment
 Secondary data
 Observation
 Other (please specify):

Procedure: (please describe)

Interviews will be conducted face to face, telephonically and via email.

Please remember to attach your research proposal OR a literature review with research methodology

2. PARTICIPANTS

Characteristics of participants:

Gender:

Race / Ethnicity:

Age range:

Location:

Other:

Race / Ethnicity:

Have you included a “**Prefer not to Answer**” response category in your questionnaire? (please select)

- Yes
 No
 Not applicable



If you answered 'No' why not?

Affiliations of participants: (please select)

Company employees General public UCT staff UCT Students

Other (please specify): ex employees

If your sample includes children (aged 18 and below), mentally incompetent persons, or legally restricted groups please explain below why it is necessary to use these particular groups. If subjects are minors or mentally incompetent, please describe how and by whom permission will be granted? If you are including children under the age of 18 and are not getting parental consent, please explain why you believe that their parents would consent if it was possible to contact them.

3. ORGANISATIONAL PERMISSION

If your research is being conducted within a specific organisation, please state how organisational permission has been obtained:

The information is in the public domain.



If you cannot obtain organisational permission, please justify why below: n/a

Have you attached the letter from the organisation granting permission? (please select)

Yes No Not applicable

Are you making use of UCT students as respondents for your research? (please select)

Yes No

If yes, please get your supervisor to sign below:

I Miss/Mrs/Mr/Dr/ Prof _____ (insert name) as supervisor(s) to _____ (insert researcher's name) agree to ensure that approval is granted by the Executive Director: Student Affairs prior to the researcher conducting the study.

Insert electronic signature below

Contact Emails: *Executive Director: Student Affairs (Moonira.Khan@uct.ac.za)

**Executive Director: Human Resources (Miriam.Hoosain@uct.ac.za)

4. INFORMED CONSENT

What type of consent will be obtained from study participants?

Oral Consent

Written Consent



Anonymous questionnaire (covering letter required, no consent form needed)

Other (please specify): _____

If you are making use of oral consent, please explain by written consent is not an option:

How and where will consent/permission be recorded?

5. CONFIDENTIALITY OF DATA

What precautions will be taken to safeguard identifiable records of individuals? Please describe specific procedures to be used to provide confidentiality of data by you and others, in both the short and long run. This question also applies if you are using secondary sources of data that is not anonymous.

6. RISK TO PARTICIPANTS



Does the proposed research pose any physical, psychological, social, legal, economic, or other risks to study participants you can foresee, both immediate and long run? (please select)

Yes No

If yes, answer the following questions:

Describe in detail the nature and extent of the risk and provide the rationale for the necessity of such risks

Outline any alternative approaches that were or will be considered and why alternatives may not be feasible in the study

1.

2.

3.

7. AUTHORSHIP

What authorship agreement have you reached with your co-researchers or supervisor?

- This research is not intended for publication
- Standard authorship agreement (principal researcher first author, co-researcher(s) and supervisor(s) co-authors)
- Customised agreement (please specify below):

8. DECLARATION



I certify that we have read the the UCT Authorship Policy, and Commerce Faculty Authorship Guidelines (<http://www.commerce.uct.ac.za/Commerce/Information/research.asp>)

I certify that that the material contained herein is truthful and that all co-researchers and supervisors are aware of the contents thereof.

I understand that it is my responsibility to conduct research in accordance with the ethical requirements of UCT.

Signed by candidate


Signature Removed

Applicant's electronic signature

Date:

CHECKLIST	SELECT
A full copy of a research proposal or a literature review with methodology is attached	<input checked="" type="checkbox"/>
Interview schedules / cover letters / questionnaires / informed consent forms and other materials used in the study are attached	<input checked="" type="checkbox"/>
Organisational consent letter / UCT student or staff approval letter	<input checked="" type="checkbox"/>



On your cover letter to your questionnaire have you included the following?	<input checked="" type="checkbox"/>
<p>The following UCT Logo</p> 	<input checked="" type="checkbox"/>
A sentence explaining the aim of the research	<input checked="" type="checkbox"/>
Sentences of a similar nature to below must be included in the cover letter or consent form:	<input type="checkbox"/>
This research has been approved by the Commerce Faculty Ethics in Research Committee.	<input type="checkbox"/>
Your participation in this research is voluntary. You can choose to withdraw from the research at any time.	<input type="checkbox"/>
The questionnaire will take approximately X minutes to complete	<input checked="" type="checkbox"/>
You will not be requested to supply any identifiable information, ensuring anonymity of your responses.	OR <input type="checkbox"/>
Due to the nature of the study you will need to provide the researchers with some form of identifiable information however, all responses will be confidential and used for the purposes of this research only. Should you have any questions regarding the research please feel free to contact the researcher (insert contact details).	<input type="checkbox"/> <input type="checkbox"/>
Have you scanned in your signature for the last section of the form?	



For Ethics committee representative only

Recommendation(s)

Signature:

Date:

For Ethics committee chairperson only

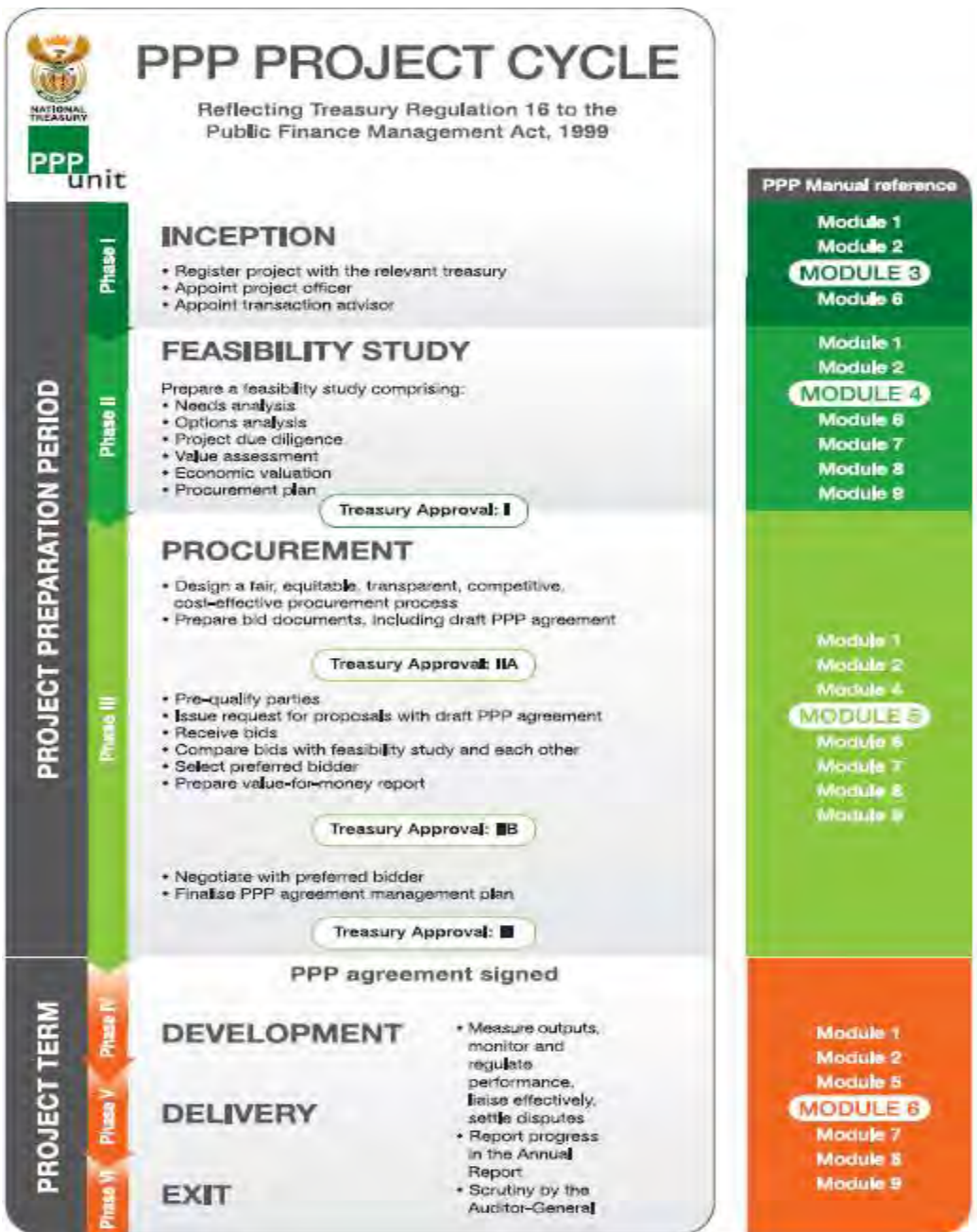
Recommendation:

n:

Signature:

Date:

Appendix 6: PPP Project Cycle Source: Treasury, 2004.





Appendix 7: PPP Projects signed in terms of Treasury Regulation No. 16 as at 1999, Source: KZN PPP benchmarking study (2005)

PPP Projects signed in terms of Treasury Regulation 16, AS AT February 2013
 PPP type indicated by combination of private party risk for: D=design, F=finance, B=build, O=operate, T=transfer of assets back to government;
 B.E.C. Black economic empowerment vfm: value for money; PFMA: Public Finance Management Act 1999

1	Project and government institution	PPP type; Contract duration; Date of Financial Close	Contact official	Private Partner	BEE as % of equity and Sub-Contracting	Financing and Arrangers	Transaction Advisors to government	Value to get (NPV of surface charges)	NPV of benefit to government
2	Inkosi Albert Lutuli Hospital KwaZulu-Natal Dept. Health	DFBOT 15 years December 2001	Herman Fombrun 033-395 2039	Impilo Consortium (Pty) Ltd comprising: Mbeke & Health & Wellbeing, AME International, Vindible Holdings, Suidmaats, Dreye & Skell, Ename	Equity: 40% Sub-c: 40%	Debt: 20% Equity: 20% Govt contribution: 10% Rand Merchant Bank	PricewaterhouseCoopers; White & Carter; EC Hines; Altonop; Jilman	R4.5 billion	N/A
3	Eco-tourism Ministry of Tourism Limpopo Dept. Tourism, Economic Affairs, Tourism	DFBOT 10 years December 2001	Charles Maluleka 015-290-7300	Koko Moya Wilderness Trail (Pty) Ltd; Tswala Lodge (Pty) Ltd; Pungwe Game Reserve (Pty) Ltd	Equity: 30% 30%, 40% Sub-c: 30%, 30%, 40%	Equity: 100%	DUSA; White & Carter	N/A	R25 million cash
4	Universitas and Pelonomi Hospitals es-Secation Free State Dept. Health	DFBOT 21 years November 2002	M Khumalo 011-488 1512	Community Health Management Solutions consortium	Equity: 40% Sub-c: 40%	Equity: 100%	Ignis; Maule's Attorney	N/A	R43 million cash plus R38 million in form of upgrade
5	Information Systems Department of Education	DFBOT 10 years December 2002	Deon Haasbroek 017-309 0751	Systems Business Solutions Consortium	Equity: 20% Sub-c: 25%	Equity: 100%	KPMG	R1.5 billion	N/A
6	Chapman's Peak	DFBOT 10 years	A J Pretorius	Capenters 252 (Pty)	NPV: 30%	Debt: 44%	Ignis, de Bono &		R 490
7	Drive toll road Western Cape Dept. Transport	30 years May 2003	021-483 2064	Ltd comprising: Concor, Thebe Investments, Marib Holdings, Haw & Ingles	Design & construct sub-c: 10% Ops & maintain sub-c: 30%	Equity: 10% Govt. Contribution: 46% Rand Merchant Bank	Greyn; Hofmeyr, Herstein & Gihwala; Intertoll; Decathlon	N/A	million in form of capital works and operations
8	State Vaccine Institute Dept. Health	Equity partnership 4 years January 2004 Extension to December 2009	Mpho Maloka 012 312 0834	Biovac Consortium	Equity: 15% Sub-c: n/a	Equity: 100%	PricewaterhouseCoopers; Deneys Reitz	N/A	R15 million systems investment; & NPV vfm of R60m over current spend
9	Humansdorp District Hospital Eastern Cape Dept. Health	DFBOT 20 years June 2003	Eugene Jooste 040-609 3702	Metro-Siur Hospital (Pty) Ltd comprising: Metropolitan Hospital and Season Siur Trading 125	Equity: 25% increasing to 40% Construct sub-c: 50% Ops & maintain sub-c: 40%	Equity: 90% Govt Contribution: 10%	Ignis; PH Inc.	R18.9 million	R15 million upgrade plus R34 million cash
10	Fleet Management Eastern Cape Dept. Transport	DFO 5 Years August 2003	Fahim Narkodien 043 604 7412	Fleet Africa Eastern Cape (Pty) Ltd	Equity: 25% Sub-c: 25%	Debt: 100% Rand Merchant Bank	Deloitte & Touche	R553 million	N/A
11	Head Office Accommodation Dept. of Trade & Industry	DFBOT 25 Years August 2003	Hansida Fakar 012 310 1564	Raindrop Consortium comprising: WRHO, Attorney Property Holdings, Parkdev S.A., Reserve Facility Management, Prognis	Equity: 55% Design & Construct sub-c: 43% Facilities Manage sub-c: 50%	Debt: 80% Equity: 8% Govt. Contribution: 12% Standard Corporate & Merchant	Ignis, Utbo Capital, Ledwaba Mazwai/Matsothi, Assoc.	R870 million	N/A



				Zwelizima Holdings, Prop 5 Corp, Rainbow Construction, WDB Investment Holdings, PDSA		Bank			
11	Cradle of Humankind Interpretation Centre Complex Gauteng Dept Agriculture, Conservation, Environment and Land Affairs	DBOT 10 years October 2003	Mags Pillay 011-355 1012	Firmeaux Stewart Gapp consortium comprising: Stocks, Fikile, Thebe	Operating equity: 53% Construction sub-c: 40% Ops sub-c: 25%	Govt: 100% capex Equity: 100% opex	Pricewaterhouse-Coopers; White & Case	N/a	R39 million cash
13	Gautrain Rapid Rail Link Gauteng Dept Public Transport, Roads & Works	DBFOT 20 years September 2006	Jack van der Merwe 011 355 7300	Bombela Consortium, made up of Bombardier Transportation; Boygaes TP, Murray & Roberts, Strategic Partners Group and RATP Developments	Equity: 25% Sub-c: 10%	Capital Contribution: 87% Debt: 11% Equity: 2%	Khufhele, Arcus Gibb, Kagiso Financial Services; Ledwaba Mazwai; Masem	N/A	Capital Value: R23,09 billion
14	National Fleet Management Department of Transport	DFO 5 years September 2006	Mkhululi Yekani 012 309 3165	Phavis World Fleet Solutions	Equity: 50% Sub-c: 50%	Equity: 100%	Deloitte & Touche; Madlola Attorneys	R213 million	R919 million
15	Western Cape Rehabilitation Centre & Lentegear Hospital	Facilities Management November 2006	Kim Lowenhertz 021 483 5844	Mpilaweni consortium	Equity: 45% Sub-c: 40%	Equity: 100%	KPMG; Africon; Deneys Reitz	R38,685 million	R 334 million
16	Polokwane Hospital Renal Dialysis	DBOT 10 years 1 December 2006	Edward Lamola 015 293 6362/61	Clinix/Transit Ernieg Thabang	Equity: 40% Sub-c: 50%	Equity: 100%	Ignis, Munyai malaka: SPP; Phisoane Henney, Inc, Vela VKE; Resolve Workplace Solutions	R88,35 million	N/a
17	Dept. of Education Serviced Head Office	DBFOT 27 years	Johan Visser 012-3125439	Sethelgo Private Party (Pty) Ltd	BEE: 25%	Debt: 90% Equity: 10%	KPMG, Deneys Reitz, Turner &	R706 989m	Capital Value

	Accommodation	23/04/2007				SCMB	Townsend		R512 264m
18	Eastern Cape Dept of Health, Port Alfred & Settlers Hospital.	DBFOT 17 years 7 May 2007	Fergus Joste 040 609 3702	Nefcure Consortium	Equity: 40% Sub-c: 60%	Debt: 78% Equity: 22% Pure Equity: 10% S/Holder: Loan: 90%	Ignis, PH Harris, Annette vd Merwe; HBS Consulting Inc	R375 million	Capital Value: R168,6 million
19	Western Cape Nature Conservation Board	DBFOT 30 years	Adnan Abrahams (021) 483-4874	Madikwe Investments	BEE: 21%	Equity: 100%	Vela VKE	N/A	Capital Value R40 million
20	Northern Cape Dept of Transport, Roads & Public Works	DFO 5 Years	Elliot Monasi (053) 839-2162	Nyumbane Fleet Services	BEE 100%	Debt: 100%	Dean Zima & Associates	N/A	R342 million
21	Dept. of International Relations & Cooperation	DBFOT 23 Years	Bemice Africa (012) 351-1407	Inhumba Aganang Consortium	TBC	TBC	TBC	TBC	TBC
22	Phalaborwa Hospital	DBFOT 15 Years	ME Lamola (015) 293-6000	Clinix Phalaborwa Private Hospital (Pty) Ltd	BEE 85%	Debt: 92% Equity: 8%	IGNIS	N/A	Capital Value R90 million
23									
24									
25									



Appendix 8: Risk Matrix, Source: Treasury, 2004.

Risk matrix				
No.	Categories	Description	Mitigation	Allocation
1.	Availability risk	The possibility that the Services to be provided by the Private Party do not meet the output specifications of the Institution.	Clear output specifications. Performance monitoring. Penalty Deductions against Unitary Payments.	Private Party.
2.	Completion risks	The possibility that the completion of the Works required for a project may be (i) delayed so that the delivery of the Services cannot commence at the Scheduled Service Commencement Date, or (ii) delayed, unless greater expenditure is incurred to keep to the Scheduled Service Commencement Date, or (iii) delayed because of variations.	Special insurance (project delay insurance). Appointment of an independent Certifier to certify the completion of the Works. Liquidated damages, construction bonds and other appropriate security from the Private Party to achieve completion, unless caused by the Institution. Relief Event.	Private Party, unless delay caused by Institution (including Institution Variations).
3.	Cost overrun risk	The possibility that during the design and construction phase, the actual Project costs will exceed projected Project costs.	Fixed price construction contracts. Contingency provisions. Standby debt facilities/additional equity commitments; provided that these commitments are made upfront and anticipated in the base case Financial Model.	Private Party.
4.	Design risk.	The possibility that the Private Party's design may not achieve the required output specifications.	Clear output specifications. Design warranty. Patent and latent defect liability. Consultation with and review by Institution (but review must not lead to input specifications by Institution). Independent Expert appointment to resolve disputes on expedited basis.	Private Party.
5.	Environmental risk	The possibility of liability for losses caused by environmental damage arising (i) from construction or operating activities (see operating risk) during the Project Term, or (ii) from pre-transfer activities whether undertaken by the Institution or a third party and not attributable to the activities of the Private Party or the Subcontractors.	Thorough due diligence by the bidders of the Project Site conditions. Independent surveys of the Project Site commissioned by the Institution at its cost. Institution indemnity for latent pre-transfer environmental contamination, limited by a cap (subject to value for money ("VFM") considerations), for a specified period. Remediation works to remedy identified pre-transfer environmental contamination as a specific project deliverable. Independent monitoring of remediation works.	In relation to (i), the Private Party. In relation to (ii), the Institution, but Institution's liability to be capped (subject to VFM considerations).
6.	Exchange rate risk.	The possibility that exchange rate fluctuations will impact on the envisaged costs of imported inputs required for the construction or operations phase of the Project.	Hedging instruments (e.g. swaps).	Private Party.
7.	Force Majeure risks	The possibility of the occurrence of certain unexpected events that are beyond the control of the Parties (whether natural or "man-made"), which may affect the construction or operation of the Project.	Define "Force Majeure" narrowly to exclude risks that can be insured against and that are dealt with more adequately by other mechanisms such as Relief Events. Relief Events. Termination for Force Majeure.	If risks are insurable, then they are not Force Majeure risks and are allocated to Private Party. If risks are not insurable, then risk is shared insofar as Institution may pay limited compensation on termination.



No.	Categories	Description	Mitigation	Allocation
8.	Inflation risk	The possibility that the actual inflation rate will exceed the projected inflation rate. This risk is more apparent during the operations phase of the Project.	Index-linked adjustment to Unitary Payments or user charges.	Institution bears risk of inflationary increases up to the limit of the agreed index. Increases in excess of this are for the Private Party.
9.	Insolvency risk	The possibility of the insolvency of the Private Party.	SPV structure to ring-fence the Project cash flows. Security over necessary Project Assets. Limitations on debt and funding commitments of the Private Party. Reporting obligations in respect of financial information and any litigation or disputes with creditors. Institution has right to terminate the PPP Agreement. Substitution of Private Party in terms of the Direct Agreement. Substitution of the Private Party with a New Private Party if there is a Liquid Market and the Retendering procedure is followed.	Private Party.
10.	Insurance risk	The possibility (i) that any risks that are insurable as at the Signature Date pursuant to the agreed Project Insurances later become Uninsurable or (ii) of substantial increases in the rates at which insurance premiums are calculated.	In the case of (i), at the option of the Institution, self-insurance by the Institution or, if the uninsurable event occurs, then termination of the PPP Agreement as if for Force Majeure with compensation to the Private Party. Reserves.	In relation to (i), if the Private Party caused the Uninsurability or, even if it did not, but the Private Party cannot show that similar businesses would stop operating without the insurance in question, then the Private Party bears the risk. Otherwise, the risk is shared between the Private Party and the Institution. In relation to (ii), the Private Party (unless caused by Institution variations).
11.	Interest rate risk	These are factors affecting the availability and cost of funds.	Hedging instruments (e.g. swaps). Fixed rate loans.	Private Party.
12.	Latent defect risk	The possibility of loss or damage arising from latent defects in the Facilities included in the Project Assets (compare, the treatment of latent pre-transfer environmental contamination, see environmental risk).	Wherever possible, the design and construction of the Facilities must be performed or procured by the Private Party. If, however, a project involves the take-over by the Private Party of existing Facilities, then the bidders must undertake a thorough due diligence of these Facilities to uncover defects. The procedure for and cost of the remediation of such discovered defects can then be pre-agreed with the Private Party. Reporting obligation on Private Party to promptly disclose discovered defects.	if the Private Party (or any of the Subcontractors) designs and constructs the Facilities, the Private Party. If not, then the Institution, but only if there is no or insufficient insurances available to mitigate this risk and if the Institution's liability is capped (subject to VFM considerations).
13.	Maintenance risk	The possibility that (i) the cost of maintaining assets in the required condition may vary from the projected maintenance costs, or (ii) maintenance is not carried out.	Clear output specifications. Penalty regime and performance monitoring. Adequate O&M contract. Substitution rights. Special insurance and special security in the form of final maintenance bonds.	Private Party.



No.	Categories	Description	Mitigation	Allocation
14.	Market, demand or volume risk	The possibility that the demand for the Services generated by a project may be less than projected (whether for example because the need for the Services ceases or decreases, or because of competitors entering into the relevant market, or because of consumer opposition to the outsourcing of the Services).	In a Unitary Payment type PPP, the Unitary Payment must be paid based on availability (not actual usage by the Institution).	In relation to a Unitary Payment funded project, the Institution. In relation to a user-charge funded project, the Private Party.
15.	Operating risk	Any factors (other than Force Majeure) impacting on the operating requirements of the Project, including projected operating expenditure and skills requirements, for example, labour disputes, employee competence, employee fraud, technology failure, environmental incidents and any failure to obtain, maintain and comply with necessary operating Consent.	Clear output specifications. Penalty regime and performance monitoring. Adequate O&M contract. Substitution rights. Special insurance.	Private Party.
16.	Planning risk	The possibility that the proposed use of the Project Site in terms of the PPP Agreement and, in particular, the construction of the Facilities on the Project Site will fail to comply with any applicable laws relating to planning, land-use or building (for example, any town-planning or land-zoning scheme) or any Consent required pursuant thereto, or that any such Consent will be delayed or cannot be obtained or if obtained, can only be implemented at a greater cost than originally projected.	The Institution must identify at the feasibility phase any macro-level planning Consents not required for the detailed design and construction proposal for the Project, such as, any land-use and zoning Consents. These Consents must be obtained before the Project is put to tender. The Private Party must identify all planning Consents that are required for the Project having regard to its design and construction proposal. It must make adequate provision in its Works programme for such Consents to be obtained. Relief Event for delays in Private Party obtaining Consents but only if the delay is not attributable to the Private Party.	In relation to any land-use and zoning Consent, the Institution, unless Project Site selection is the Private Party's responsibility. In relation to any building Consent or other design or construction specific planning Consent, the Private Party.
17.	Political risk	The possibility of (i) Unforeseeable Conduct by the Institution or by any other government authority that materially and adversely affects the expected return on Equity, debt service or otherwise results in increased costs to the Private Party, or (ii) expropriation, nationalisation or privatisation (collectively, "expropriating actions") of the assets of the Private Party. This risk overlaps with some financial risks (e.g. tax rate change risk).	Limit risk to Unforeseeable Conduct for which there is no other relief in the PPP Agreement and to expropriating actions. Distinguish between general and discriminatory Unforeseeable Conduct. In relation to discriminatory Unforeseeable Conduct, special compensation. In relation to expropriating actions, termination and compensation.	In relation to discriminatory Unforeseeable Conduct and expropriating actions, the Institution. In relation to general Unforeseeable Conduct, the Private Party.
18.	Regulatory risk	The possibility that Consents required from other government authorities will not be obtained or, if obtained, can only be implemented at a greater cost than originally projected (compare, the treatment of planning and environmental Consents, see planning risk and environmental risk).	During the feasibility phase of the Project, a legal scan is undertaken by the Institution to identify all such Consents. Implementation by the Institution of an inter-governmental liaison process with the responsible government authorities before the procurement phase. Due Diligence by Private Party to identify the Consents required for its operating requirements. If permitted under applicable law and if this is practical, obtain all such Consents before the Signature Date.	If any such Consents (other than those relating to Private Party's operating requirements) can be obtained before the Signature Date and they are capable of transfer to the Private Party, the Institution. In relation to the Private Party's operating requirements, the Private Party.



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