

Negotiating the Debt Portion of the Port of Maputo Privatisation

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Abstract

Public Private Partnerships are becoming a key trend with regard to the provision of infrastructure in the Southern African region, as evidenced by the increasing number of Public Private Partnership transactions taking place. These transactions depend on financing and, for them to be a success, a thorough understanding of the factors affecting the debt and equity sides of the transaction is necessary. This study, through the use of the Port of Maputo as a case study and in depth interviews with selected respondents, sought to determine these factors and to gain a better understanding of them. The financing process, mitigating factors in relation to success factors, risk and conflict have all been explored. The initial model therefore explores the conflict in the financing side of PPP transactions and then posits various reasons for the possible failure of PPP transactions and how these reasons can be mitigated, as well as possible success factors in the financing side of these transactions.

Declaration

I declare that this research report is my own, unaided work. It is being submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

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Glossary of Terms

Average cost: Total cost divided by the quantity of products produced

Concession: A method for bringing in private sector participants to supply transport infrastructure. Concessions usually involve the transfer of control of the assets to a private management partner for a fixed period.

Concessionaire: A firm that has been awarded a concession

Concessor: An entity that awards concessions

Financial institutions: Institutions that provide financial services to customers

Force majeure: An event beyond the control of any involved party that could not reasonably have been foreseen

Network infrastructure: Infrastructure such as roads, electricity, water, telephone etc.

Project finance: Financing of a particular economic unit in which the lender is satisfied to look to cash flows and earnings of that economic unit as collateral for a loan

Put option: A put option gives the holder the right to sell the underlying asset to the writer of the option at a predetermined exercise price.

Joint venture: A deal where two parties combine forces in order to fulfil a service, or undertake a project.

List of Abbreviations

AIDS:	Acquired Immune Deficiency Syndrome
CFM:	Caminhos de Ferro Moçambique (Mozambican Government Transport utility)
EPV:	Expected Present Value
FDI:	Foreign Direct Investment
GDP:	Gross Domestic Product
HIV:	Human Immunodeficiency Virus
IBRD:	International Bank for Reconstruction and Development
IMF:	International Monetary Fund
IRR	Internal Rate of Return
NGOs:	Non Governmental Organisations
NPV:	Net Present Value
PFI:	Private Finance Initiative
PLC:	Project Life Cycle
PPP:	Public Private Partnership

POM: Port of Maputo

ROI Return on Investment

SADC: Southern African Development Community

SMME: Small, Medium and Micro Enterprises

SPV: Special Purpose Vehicle

WCOC: Weighted Cost of Capital

1. INTRODUCTION

1.1 Purpose of the Study

The purpose of this research is to determine what factors influence the successful conclusion of the debt financing portion (as opposed to the equity component) of a Private Public Partnership (PPP) transaction. The research presents the concessioning of the Port of Maputo as a case study. The report accesses and explores the PPP transaction in terms of the difficulties that complicated the equity component of this deal. This transaction is an important case because it involves the largest infrastructure transaction in Southern Africa in recent times, namely The Maputo Corridor.

1.2 Context of the Study

Public-private partnerships are frequently hailed as the solution to complex development problems and, as such, are central to the New Partnership for Africa's Development (NEPAD). (Bellamy, 2003:1)

According to Kegler & Wittkopf (1996:255), a parallel development to the development of PPPs has been rapid globalisation of the world capital and financial markets which has resulted in a state of economic development where geographic location no longer matters in finance. Along with this rapid globalisation has come the large-scale privatisation of state-owned assets and

the reversal of government intervention in the funding and running of large-scale infrastructure projects (Kapur, 1995). Mustafa (1999) suggests that PPPs benefit governments in that the responsibility for funding, running and maintaining infrastructure shifts to the private sector. This shift reduces the need for governments to borrow money, reducing fiscal deficits in this way, and is generally intended to increase the quality of the service delivered.

Wolfensohn (2004) claims that an increasing number of sub-Saharan African countries are experiencing better-than-average growth rates. Thirty-one of the 48 countries in the region boasted higher per capita incomes in 1996, when growth rates increased to 5.6 percent. In 1995, growth rates already averaged 3.4 percent, and exports 5.9 percent. The trend continued, with exports growing at a rate of 6.3 percent in 1996.

Wolfensohn (2004) feels that there is a new sense of optimism that sub-Saharan Africa's growth rates can increase to between 8 percent and 10 percent in the next decade, but that PPPs will be the primary engine driving growth to these levels. "The World Bank, which sees private sector-led development as central to its core mission of reducing poverty, plans to continue being a partner for businesses investing in emerging economies". (Wolfensohn, 2004:1) Wolfensohn's statement is echoed by Bellamy (2003) who writes that establishing institutional support for PPPs, especially in the initial stages, is vital for growth and development in Africa.

PPPs are increasingly coming to the fore. Some of these partnerships have been extremely successful, and produced very worthwhile results, while others have stagnated or have been unsuccessful. These unsuccessful partnerships seem to break down for a variety of reasons. Bellamy (2003) writes that the sustainability of PPP undertakings is an issue that has been repeatedly raised. Key aspects of ensuring the success of PPPs have been:

- the buy-in of people affected by development projects;
- the need for both partners and users to have clarity on the objectives and the benefits of the project;
- the need for there to be a proper definition of the scope of a PPP ; and
- a clear strategy to avoid collapse if and when the private sector partner disengages.

The debt-financing portion of PPP transactions is a vital component in ensuring success; all too often players focus on the equity side of transactions. The Port of Maputo case is of relevance to the study of negotiations, an integral part of all PPP transactions, because it seemed as if the negotiations were going to fail when, in fact, they were ultimately successful. There could be valuable lessons to learn from studying this case and specifically from an understanding of how the transaction was concluded and brought back from the verge of failure. Heald (2004) writes that this transaction was recognised as being very complicated due to the size of the transaction and the number of players involved. There were two

important aspects to note: firstly, the negotiations of the equity component were tedious and aggressive; and secondly, once the debt financiers came on board, “The perceptions relating to the transaction started changing from a view that the deal that was stalemated, and could convert into self-destruction, into a perception of a deal that was stalemated and would convert into an excellent and positive transaction.” (Heald 2004:9)

In order for the transaction to be studied successfully this research will use the case study method in the interpretive paradigm, as suggested by Burrell & Morgan (1979).

1.3 Problem Statement

The purpose of this research is to determine the factors that affected the successful conclusion of the debt portion of the Port of Maputo concession agreement.

1.4 Significance of the Study

The research hopes to provide guidance to future PPP transactions seeking debt financing to successfully conclude such transactions. As suggested by Leedy & Ormrod (2001) the success of a case indicates that the learnings from it may promote understanding or inform practice for other similar situations or

transactions.

Part of this study aims to provide a better understanding of the factors that mitigate risk in the successful conclusion of the financing side of PPP transactions. This better understanding is necessary since privatisation is essential for the growth of Africa and, as Van Huyssteen (1998) points out, African countries need to follow the lead of the rest of the world in the privatisation of services and infrastructure in order to reduce fiscal deficits, attract foreign direct investment, and to improve service quality.

This study aims, in part, to explore what factors make the debt component of a transaction successful from the point of view of the debt providers and also aims to fill a gap in the lack of current literature on the subject. Much of this information is held as intellectual property within financial institutions, but through this case study the researcher has an opportunity to document some of this knowledge.

Lastly, the study will determine whether the concept of a “wicked problem” can be applied to this case in order to assist in reaching a solution. Wicked problems are regarded as being those with vague, incomplete, contradictory and changing requirements, where the solving of one aspect may reveal another or several more complex problems. According to Conklin (2002), the chief barrier to collaborative success is fragmentation, which can be caused by wicked problems and social complexity. “Understanding a wicked problem is about collectively

making sense of the situation and coming to a shared understanding about who wants what.” (Conklin 2002:1)

1.5 Delimitations and Limitations

1.5.1 Delimitations

In this case study, the scope will be limited to the PPP transaction that took place in Mozambique at the Port of Maputo. No attempt will be made to investigate other PPP transactions in any detail.

The study will focus on the latter part of the negotiation process for the purpose of understanding why the deal, which was from 1999 to 2002, eventually succeeded when it was expected to fail. The study will also establish how this success contributed to the successful conclusion of other deals in the area. The research primarily covers the period from 2003 to 2004.

1.5.2 Limitations

The research will be conducted as qualitative research in the form of a case study, in the interpretive paradigm, from which certain limitations will arise.

According to Leedy & Ormrod (2001) the research is likely to uncover a number of variables with regard to the topic (the financing aspect of PPPs), which were

unknown to the researcher at the time the research was embarked upon. There is, therefore, the need to be flexible or adapt an emergent approach to the research.

Amaratunga & Baldry (2001) suggest that the purpose of case study research is to add to theory building and to articulate patterns rather than to generalise findings to a population. Rowley (2002) argues that generalisations can be made if the research design has been informed by theory and is therefore seen to add to theory building.

Data collection in this research occurs through observations and semi structured interviews. This method may allow subjectivity to occur, as bias may be expressed from both the researcher and the interviewees. Should subjectivity occur, this might impact on construct validity and reliability of the research. The researcher is, however, aware of the potential for subjectivity and will guard against it.

2. LITERATURE REVIEW

2.1 Introduction

The literature review provides an overview of the literature on privatisation and of PPPs, initially looking at the financial process involved with regard to financing, risk, success and mitigating factors in PPP transactions.

Studies on the finance side of PPP transactions have focused largely on the project finance approach, as this has been the most common form of financing for PPP transactions to date. In this literature different types of finance have been examined and discussed. Along with this, risk has been discussed as it forms an important consideration in large PPP transactions.

With regard to privatisation, factors that work against PPPs as well as the common success factors of these transactions, have been investigated and discussed in some detail. A greater understanding of these factors has been highlighted as being crucial to the success of PPP transactions.

2.2 Public Private Partnerships

2.2.1 Privatisation

Privatisation occurs when “countries turn to private sources to provide services formerly offered by public agencies” (Gomez-Ibanez & Meyer, 1993:1). According

to Estache (2001:85), “dismay with the quality of service provided by many state controlled public monopolies led to demands for greater efficiency and competition”, which stimulated the move toward privatisation. Further to this, Estache (2001) suggests that the main force that propelled governments to reform was fiscal crisis, with governments needing to cut expenditure and being forced to turn to the private sector for assistance in financing these huge investments. Fisher & Babbar (1996:1) concur with this view and suggest that “interest in private [infrastructure] is particularly strong because governments require alternative sources of financing”. Gomez-Ibanez & Meyer (1993) further support the argument for privatisation by arguing that private operators are better able to build or operate a service and be more innovative with designs and services offered than governments are. The incentives listed above have promoted the move toward privatisation and the need to better understand the factors involved in the process of privatisation.

2.2.2 Definition of PPPs

Public Private Partnerships (PPPs) involve organisations whose affiliations lie in the public and private sectors respectively working together in partnership to provide public services. Stoker (1998) suggests that the increase in the use of partnerships seems to be a part of a broader shift in the role of government away from the provision of public services.

The definition of PPPs embraced by The Canadian Council for Public Private Partnerships (2003:1) is “a cooperative venture between the public and private sectors, built on the expertise of each partner that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards.”

This definition is reiterated by Derryck (2003), who defines PPPs as collaborations among the private sector, governments and civil society, through NGOs. By definition, PPPs work with governments, whether donor or host country, national or local. Stephenson (1991) adds that the term “PPP” itself suggests interactive collaboration between sectors in an economy.

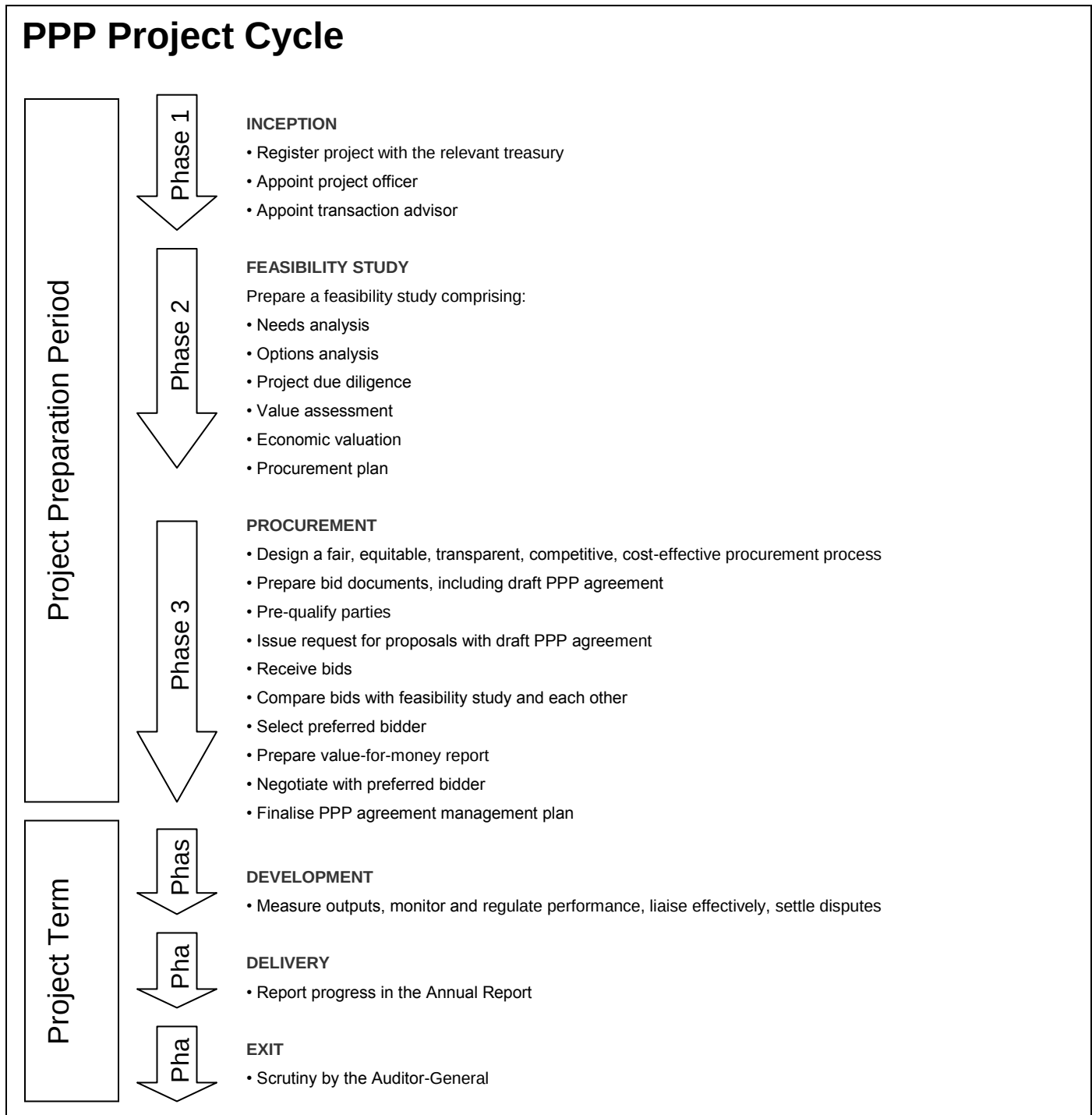
Pierre (1998) suggests that there are three mutually exclusive “general themes” or “analytical contexts” in which PPPs can be viewed and analysed. First, PPPs represent “institutionalized cooperation” between the public and private sectors. Second, they can be viewed as a policy instrument or ‘arrow’ in state and local economic development officials’ quivers. Third, they can be assessed as an alternative form of urban politic structure and as a public resource allocation mechanism, during a time when many are observing a change in the traditional role of government, which is shifting from “rowing to steering”.

Further to this, The Canadian Council for Public Private Partnerships (2003) suggests that central to a PPP arrangement is the sharing of risks. The basis to any successful PPP initiative is the identification of risk associated with each

component of the project and the allocation of that risk factor to the public sector, the private sector, or both. The best value is ensured by balancing the allocation of risk factors to those participants who are best able to manage the risks and thus minimise costs while improving performance.

PPPs are a structured approach to infrastructure and economic improvement and, as such, follow a series of steps that help to ensure that all aspects of the project are covered and catered for properly. Below is a graphical representation of a typical PPP project life cycle (Figure 1).

Figure 1: PPP Project Life Cycle



Source: South African Treasury - PPP Manual (2004)

2.2.3 The Role of PPPs in Development

The essential role of the public sector in all PPPs — whether PFI [Public Finance Initiative] project, joint venture, or other partnership structure — is to define the scope of business; specify priorities, targets, and outputs; and set the performance regime by which the management of the PPP is given incentives to deliver; and, in the case of PFI projects, also to pay for the services. The essential role and responsibility of the private sector in all PPP's is to deliver the business objectives of the PPP on terms offering value for money to the public sector. (Gerrard 2001:2)

Primarily, the objectives of PPPs and their role in development are to improve on services and infrastructure. The creation of a PPP project is one of the few methods that can be employed by government to provide the necessary services and infrastructure development and, as suggested by Gomez-Ibanez & Meyer (1993:4), “without an overt increase in taxes, in many ways privatisation can take an activity off the political agenda.”

A holistic view of this is presented by Gerrard (2001), who argues that PPPs generally spread the costs of procuring assets over time and/or cause the associated capital expenditure to affect private firms', rather than the public sector's, balance sheets. Where public sector capital budgets are constrained, there are obvious advantages in adopting a PPP to deliver public services that might otherwise be unaffordable to a government. These objectives may be

achieved by procuring assets for the public services required, that is, outputs rather than procuring the underlying assets, or inputs.

At the heart of all PPPs is the deployment of private sector capital. This can result in huge benefits for governments, as risk will be transferred to the private sector, which can be leveraged by government through the provision of powerful private sector incentives for the long-term delivery of reliable public services. In many countries, therefore, “the motivation for making greater use of PPP’s is to obtain increased value for money in the procurement of public services”. (Gerrard 2001:5)

2.2.4 Common Success Factors In PPP Transactions

Mullin (2002:4) writes that we need to ask the question: “Are PPP’s effective approaches to particular economic development efforts?” He argues that this is hard to determine since the literature lacks specific definitions, measures, and for the most part sufficient data with which to evaluate the success of PPPs. Mullin (2004) says that conceptually, one might consider a PPP ‘successful’ if it (a) increases the probability of a good economic development effort being successful and/or (b) it increases the net benefits of one or more of the partners, without reducing the benefits of any partner.

Further to this Mullen (2002) identifies five characteristics of successful PPPs:

- Political Leadership 'commitment from the top' - Senior public officials must be actively involved, show significant support for the use of PPPs, and take strong leadership roles in the PPP. A well-informed political leader can play a critical role in minimising misperceptions about the value to the public of an effectively developed partnership.
- Public sector involvement - Public-sector officials must also remain actively involved in the project or programme. Ongoing and frequent monitoring of the performance of the partnership is important in assuring its success, especially to counter any claims of lack of accountability.
- A well-thought-out plan - Careful planning will substantially increase the probability of success of the partnership. As Mullen (2002:33) states: "This plan most often will take the form of an extensive, detailed contract, clearly describing the responsibilities of both the public and private partners." Mullin (2002) also states that in addition to attempting to foresee areas of respective responsibilities, a good plan or contract will include a clearly defined method for resolving disputes resolution.
- Communications with stakeholders - Partnership stakeholders, including "affected employees, the portions of the public receiving the service, the press, appropriate labour unions and relevant interest groups will all have opinions and frequently significant misconceptions about a partnership and its

value to all the public.” (Mullin 2002:33) Open and candid communication is key.

- Selecting the right partner - The ‘lowest bid’ does not always indicate the best choice of selecting a partner. The ‘best value’ in a partner is crucial in a long-term relationship that is central to a successful partnership. A candidate's experience in the specific area of partnership being considered is critical.

Bellamy (2003) concurs with Mullin (2002) by pointing out that in order for PPPs to be successful, stakeholders must:

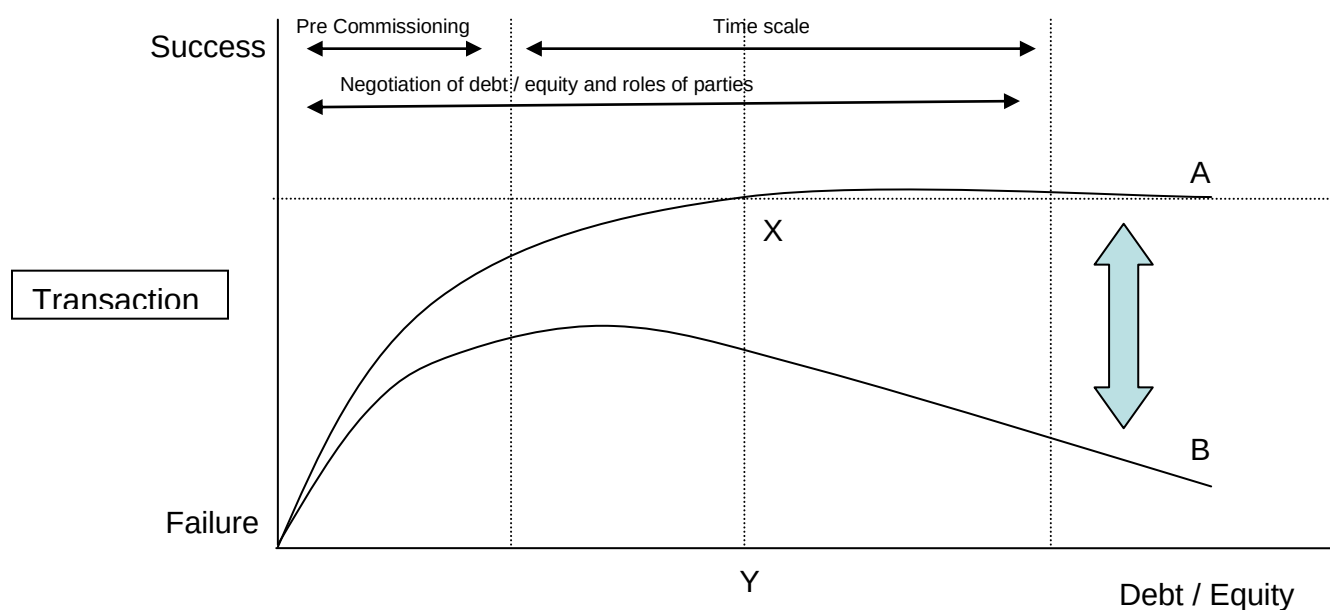
- carefully manage partnerships - to avoid problems such as perceptions of bullying or entitlement on the part of any one partner;
- have mutual respect, and a clear definition of roles and accountability;
- have a regulatory framework for partnerships, for example to deal with conflicts over contracts; and
- understand the necessity for a sharing of risk.

There seems to be consensus that “a successful PPP program will likely require a degree of reform by both the public and the private sector to create the right enabling environment”. (Gerrard 2001:3)

2.2.5 Debt / Equity - Mitigating Factors in PPPs

The factors that work against PPPs seem to be a little-understood component of these transactions, but factors exist that do influence the success of PPP transactions for a variety of reasons. The researcher has tried to explore some factors that could affect these transactions. In the course of this exploration a graphical model was developed, which is illustrated below (Figure 2).

Figure 2: Factors that Work Against PPPs



In (Figure 2) line A represents the ideal situation with an optimal level of debt (point Y) and point X denotes the intersection between this optimal debt and an agreed level representing success in the transaction. Should negotiations continue without a conclusion being reached as to what roles should be played

by whom, as well as what constitutes acceptable levels of equity and debt, the transaction begins to head toward failure, represented by line B. The blue block arrow shows the difference of where negotiators would like to be (line A) and where they may be in reality (line B), and line movement can be attributed to mitigating factors. Part of this research will attempt to understand the relationship between these factors and how their effect can be minimised in order for success to be ensured. To permit a better understanding of these factors that could cause this shift represented in the graph from line A to line B the researcher has identified several factors which have been briefly discussed below.

2.2.5.1 *Politics / Government*

The government can play a huge role in any large project. As Berman (2004:20) suggests, “governments need to start providing a guiding hand in developing a suitable investor climate or project financing deals”. Government need to show a willingness for deals to be concluded, create a regulatory structure that is favorable to project implementation, create macroeconomic stability, pay attention to economic fundamentals such as GDP growth and interest rates while introducing a borrowing policy that promotes yield curve development. (Berman 2004:21)

Political instability also plays a large role in an area such as sub Saharan Africa and there are risks that go with it. Any potential investors need to be aware of the risks that they face when they pour money into a country without the blessing of

its government. Benoit (1996) lists potential political risks as:

- the government will expropriate the project facilities;
- the government will withhold licenses required for construction or operation of the project;
- the government will breach its contractual obligations to the investors;
- the government will act to limit the ability of investors to convert their local currency into foreign exchange;
- law changes that could affect operation of the project; and
- civil war could interfere with the project's operation.

These risks are described in detail in Section 2.4.4.

From these points the role that governments play emerges, as well as how the success of a project can depend on the amount of support from government and the willingness of government to see the project succeed.

2.2.5.2 Degree of Cashflow Certainty

Projects hinge on financial backing, but financiers want to see solid cashflows before they take a risk in any project-finance type of investment. As Benoit (1996:24) suggests, one of the factors that the International Bank for Reconstruction and Development (IBRD) looks at before investing in any project is financial returns. The bank analyses expected revenue flows to ensure that there is enough cash generated to meet debt and running-cost obligations and to

provide returns to shareholders.

If cashflow is not a certainty, any project would be sure to fail because of the lack of support from financial institutions that react against the risk associated with the project.

2.2.5.3 *Sophistication of Local Financial Markets*

Berman (2004) suggests that one of the greatest challenges facing Africa's attempts to attract investment to the continent is the risks inherent in mismatched local currency revenues as opposed to hard currency exposure, interest rate mismatches, the perceived volatility of African markets, the dependency of capital flight on international sentiment and the relative infancy of debt markets in African countries.

Berman (2004) further suggests that in order to overcome some of these issues governments need to take action in the form of:

- creating an African project finance market;
- increasing the depth of local institutions and financial markets;
- developing capital markets and long-term yield benchmarks;
- developing risk solutions for dollar debt;
- developing investment managers and syndication structures;
- developing credit rating systems;

- ensuring compliance to international accounting norms.

The establishment of some of these suggested steps may increase the levels of outside finance coming into the African continent and potentially increase the number of successful PPP transactions and speed such transactions up.

2.2.5.4 *Level of Ground-Level Benefits – Local People*

With the levels of poverty experienced in Africa and with the levels of HIV and AIDS it would be essential for any large projects to feed benefits back into the local communities in one form or another. As Estache *et al.* (2000:3) suggest, "privatisation, if designed properly, provides an opportunity to end the exclusion of the poor". Thus putting an end to exclusion including providing employment to these communities, the direct financial benefits from concessions developed on their land, and expansion in services.

Estache *et al.* (2000:29) state that governments and their advisors often fail to measure, anticipate and monitor the effects of privatisation on the poor. This short sightedness is despite many suggestions that can be made regarding different types of policies that will increase the benefits accruing to poor households.

The communities directly involved in any such privatisation projects play a pivotal role in their development and success and should be consulted by any

developers, as communities have the power to upset the privatisation process and make things extremely difficult.

2.2.5.5 *Level of Existing Infrastructure / Technology Investment*

The levels of existing infrastructure could play a role in how likely a PPP transaction is to succeed. In the case of The Port of Maputo most of the infrastructure already existed at the commencement of the project and what was needed was for a capable operator to take over with a certain level of development. In this case most of the money had already been spent and the focus was on trying to ensure that this money generated the potential expected returns instead of being a slow money draining government stalwart. This would be a large factor for a project as the potential money that could be generated from infrastructure that already existed was greater than from a 'from scratch' project.

2.2.5.6 *International Experience of the Project Type*

Backers for any PPP transaction would feel far more at ease about their investment if they know that there is an experienced operator at the helm, with the necessary experience to see a project through from beginning to end. The contracting of a good operator could play a role in the risks that are perceived to go hand in hand with the project, as was the case in the POM privatisation. Mersey Docks, an experienced operator was seen as the leading contender and

due to its experience the success of the transaction seemed to be ensured. As Estache *et al.* (2000:7) point out “the main contractors and key subcontractors should have the experience, reputation, financial, technical and human resources to be capable of completing the project in a timely fashion on budget”. An operator with less experience may fail to gain the necessary financial backing purely from the point of view of experience and the perception of risk that lack of experience would give rise to.

2.2.5.7 *Funding / Quantum of Investment Required*

The level of investment needed in a PPP is another aspect that could turn the potential success of such a transaction. The more players that need to be involved, the more complicated the transaction. This leads to how the risk should be shared and in what portions. Estache *et al.* (2000) suggest that most successful projects have been characterised by a broad level of risk sharing of between the public and private sectors. The greater the quantum of investment needed the longer it will take for an investor to see any upside in their investment and the greater the risks. According to Estache *et al.* (2000:16) “the higher the required return of the equity share of the project the higher the overall cost ... seek a balance between higher financing costs with more equity or greater financial risk but lower potential financing costs”. The risk here is taking advantage of upfront financial savings and then not being able to finance the debt side, as early cash flows cannot sustain the levels of debt.

2.2.5.8 *Negotiation / Personalities*

Estache *et al* (2000:5) suggest that negotiations on various aspects of the project are frequently lengthy and contentious. This appears to be especially true of transport projects, which typically are politically sensitive, have high visibility, and retain strong public interest. For this reason, getting diverse interests to agree on the nature and magnitude of risks is hard and getting them to agree on who should carry the risk is even harder. (Estache *et al.* 2000)

Personalities often play a major and underestimated role in negotiations. The outcome of these negotiations is often dependent on who the players are, their attitudes to one another, and whether they are truly seeking a solution or not. This aspect of PPP transactions cannot be underestimated, and neither can the various roles played by individuals be underestimated in different negotiations.

2.3 Project Finance and PPPs

2.3.1 *Introduction*

Before an institution undertakes a commitment to provide financial support for a project it must first establish if the goals of the proposed project meet with the institution's criteria for funding, as well as look at other aspects of the project to ensure that the project will be profitable and a minimal risk investment.

The International Bank of Reconstruction and Development (IBRD) (as cited by

Benoit, 1996:24) has developed a framework for funding looking at specific elements, which have been outlined below, and are used as criteria for providing support in the form of loans or guarantees:

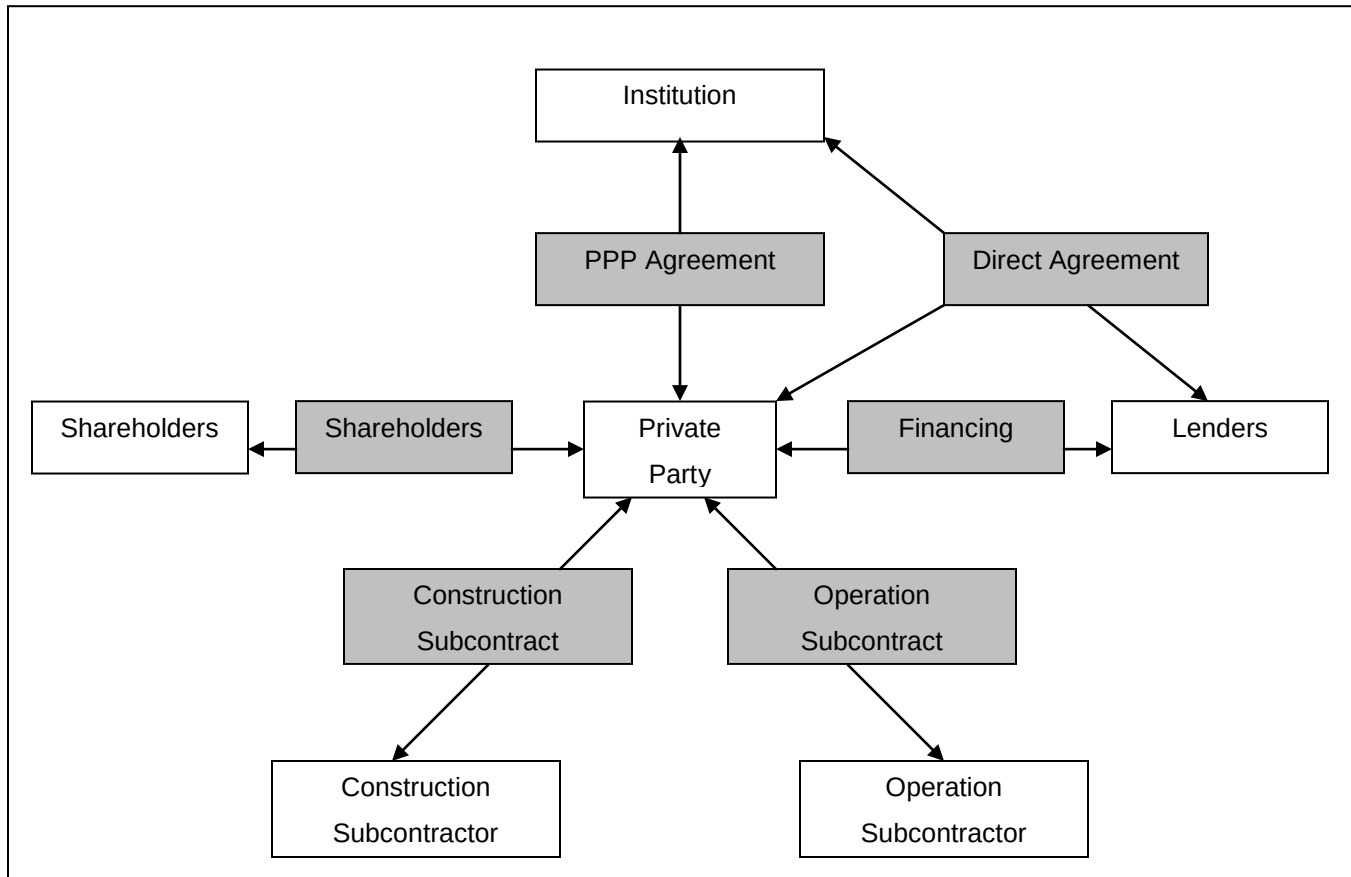
- Economic Returns – this is an economic evaluation of a project, which is an assessment of the benefits and costs of the project to the country's economy as a whole. The evaluation determines whether “the project creates more net benefits to the economy than other mutually exclusive options for the uses of the resources in question.....” (Benoit 1996:24). Benoit (1996:24) further states that for a project to be acceptable on economic grounds it must meet two conditions: “First, the Expected Present Value (EPV) of the project's net benefits must not be negative,” and second, the EPV of the project's net benefits must be higher than or equal to the expected Net Present Value (NPV) of different project alternatives.
- Financial Returns – an institution should analyse expected revenue flows to ensure that there is enough cash generated to meet debt and running-cost obligations, while providing returns to shareholders.
- Environmental and other socio-economic issues – this deals with the possible impact of the proposed development on the environment. According to Benoit (1996:24) “the IBRD has instituted policies requiring appropriate mechanisms to be put in place for offsetting any potential adverse environmental effects. If such mechanisms are lacking, or the adverse environmental effects cannot adequately be offset, the IBRD will not support the project, irrespective of the

size of the expected.”

- Distribution of Revenues and Risks – The IBRD also reviews the distribution of proposed revenues and risks among the participants. Involvement by the IBRD can take one of three forms: “

“IBRD may provide financing to the country to enable the government to procure the service of financial, legal and other appropriate advisors to assist it in analyzing and negotiating the terms of the proposed financial transaction, and otherwise preparing the project. Second, IBRD may advise the government directly as to its assessment of the proposed transactions costs to and benefits for the country. Third, to the extent that IBRD is called upon to participate as a lender or guarantor in the transaction, its involvement is guided by the fundamental objective of ensuring that the operation promotes the economic development of the participating developing countries.” (Benoit 1996:24)

This framework demonstrates what factors an institution such as the World Bank, (as outlined by Benoit, 1996) would look for in a development project before it committed itself to loans or guarantees.

Figure 3: The Typical Relationships in a Project Finance Structure for a PPP

Source: South African Treasury - PPP Manual (2004)

2.3.2 Project Finance

According to Berman (2004:20), project financing “refers to a means of financing where repayment relies on the cash flow and assets of the financed project”. This definition is confirmed by Nevitt (1985), who describes project finance as the financing of an economic unit whose cash flows and earnings the lender initially

looks at as the source of funds from which a loan will be repaid and whose assets are used as collateral for the loan. Benoit (1996:7) sees project finance as “a structure through which a project sponsor attracts financiers to a proposed discrete project on the basis of the project’s revenues rather than the general assets of the sponsor.”

Project finance allows financing of projects where sponsors are looking to limit their exposure to a project or do not have the necessary balance sheet for the size of a transaction in which they would like to participate. Benoit (1996) suggests that the project finance structure permits the financing of a project sponsors to provide finance in cases where they are unwilling to expose their general assets to liabilities to be incurred in connection with the project.

Berman (2004:20) suggests that a good project would be “one that combines various interests to optimally suit the concerns of all parties and considers risk structures, regulatory concerns and tax and legal issues”. The greatest need is for projects to develop in services and amenities; for example, improvement in infrastructure such as railways, roads and ports. “Africa’s population growth rate creates a continually growing demand for services and amenities, and the existing limited infrastructure curbs economic growth and development”. (Berman 2004:20)

2.3.2.1 Equity Financing

Equity capital is money that is injected directly into a business by individuals. If the operation is a sole proprietorship or a partnership, this type of financing would likely be in the form of an owner's contribution and would appear on the balance sheet as 'owner's equity'. If the business is incorporated, anyone contributing equity capital would receive shares in the business. Equity capital results in some degree of ownership to those making the contribution.

As Benoit (1996:8) confirms, "equity typically shares in the profits of the project and any appreciation in the value of the enterprise, without limitation ...the return on equity is generally the first to be adversely affected when the project encounters financial difficulties."

2.3.2.2 Debt Financing

The most common alternative to equity financing is debt financing. This occurs when funds from a lender are used. The loan would be used for capital spending or for operating and would have to be repaid over a period of time. There would normally be a clear repayment schedule and rate of interest. Unlike equity financing, no direct ownership rights would be associated with the financing. There are however usually some requirements to provide security by pledging (e.g. mortgaging) assets. The lender receives interest payments in exchange for risking his or her money.

Benoit (1996:9) writes that the “critical element in a project finance operation is the provision of loans to help finance the project. The main attribute of debt is a specified return on the investment consistent with traditional lending returns, but with commensurate protection against losses provided principally through the project’s assets.”

Debt financing is the most common form of financing large infrastructure-type projects in Africa. This is reiterated by Berman (2004:20), who says that “international debt funding has been the traditional source of financing for projects in Africa.”

2.3.2.3 *Quasi Equity*

This takes the form of debt similar to equity but is based on derivative products. These will only convert to equity if certain conditions are not met and leaves an avenue for debt financiers to take over the project if need be. Essentially this often takes the form of debt while being similar to equity in characteristics. As Benoit (1996:9) explains: “this includes convertible debentures, preferred stock and other investments with the attributes of both debt and equity.”

2.3.3 *Government Financial Participation*

Often infrastructure projects are of such a size and bearing that they are not feasibly undertaken without the support of government in some form. Fisher &

Babbar (1996) suggest that governments can play an important role in the provision of financial support for projects by assuming certain project risks and providing loans and contributions in kind.

Kerf (1999) summarises a list of the main provisions for governmental financial support that are commonly sought by project sponsors.

These provisions are:

- direct financial contributions such as grants, loans, equity participations and asset transfers;
- exemption from, or reduction of, taxes, royalties and other levies and duties;
- complementary investments;
- a period of exclusivity;
- the adoption of necessary legislation and the issuance of appropriate approvals and consents for the implementation and operation of the project;
- guarantees of supply or off-take agreements;
- exemptions from restrictions on the import and export of all necessary plant and equipment;
- guarantee of convertibility and transferability of local currency earnings;
- the right to keep foreign currency sale proceeds offshore;
- compensation if new planning or environmental laws detrimental to the

- profitability of the project are adopted; and
- a guarantee that the project development and operation plan will not be changed without prior consent of the sponsors.

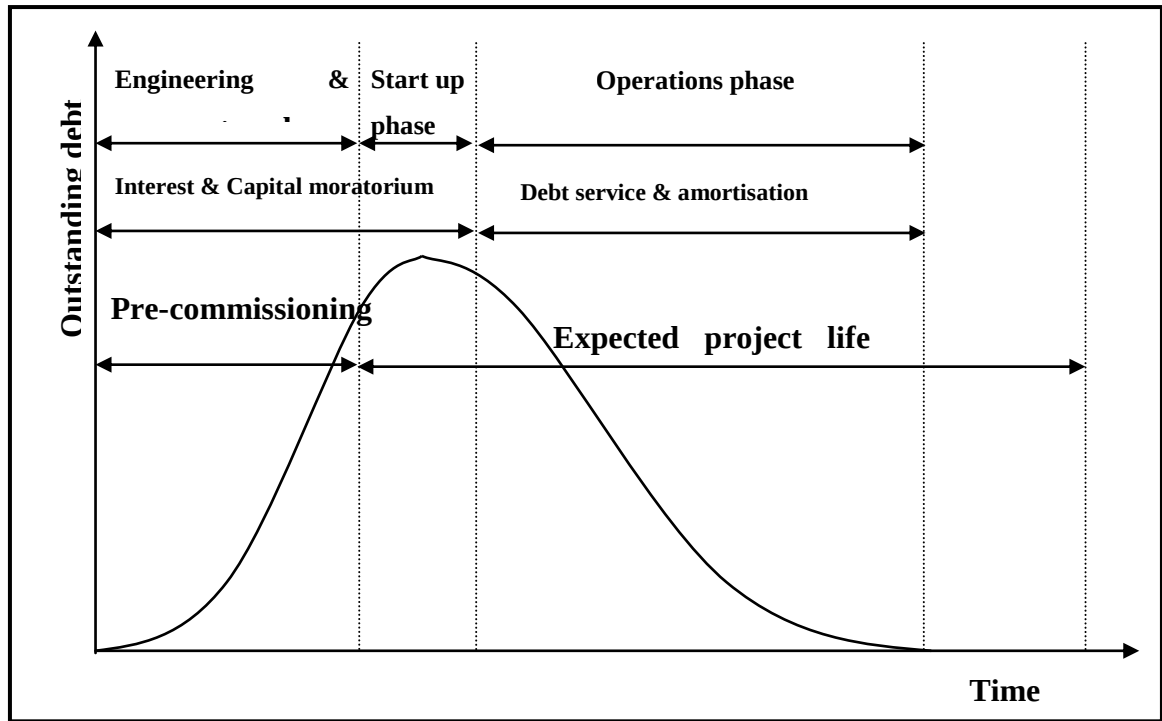
In any of these various forms, support by government can play a vital role in the success of a project purely from the magnitude of assistance that governments can give. Hence government support in large infrastructure projects is generally essential for their success.

2.4 Risks Faced by Project Financiers and Risk Mitigation

2.4.1 Understanding Risks Faced by Financiers

Risk plays a major role in the viability of any project. For this reason the different types of risks that may be associated with an infrastructure project have been examined here. Any potential financiers need to look at all aspects of risk before committing any funds, as Berman (2004:21) writes “difficulties in attracting funding include the risks”. Schlotfeldt (1999) proposes that a useful concept to help visualise the level of risk of a project is the Project Life Cycle (PLC), a diagrammatic representation of which is shown below:

Figure 4: Debt and Risk through the Project Life Cycle



Source: Nevitt (1985)

This method divides the project into three phases which represent the debt duration of the project. The three phases are the engineering, start-up and operations phases, each of which represents different levels of risk. For project financiers, “these debt levels are proportional to the level of financial risk throughout the life of a project” (Schlotfeldt 1999:50), and “allow the matching of security requirements to the dynamic evolution of the project”. (Berger 1985:41)

Fisher & Babbar (1996) identify the risks that are faced by financiers and developers at the various stages of typical project concessions. These risks are set out in the sections that follow.

2.4.2 Commercial Risks

Commercial risks deal basically with construction, operations and input and output risks.

Construction risks deal with issues such as “the risk that the construction of the project will not be completed within the required time frame as a result of contractor delays, risk that the project’s completion will involve cost overruns and the risk that the project fails at commissioning to meet required specifications”. (Benoit 1996:12)

Operations risks - include a range of different types of risks, “including transaction errors in the various stages of executing and recording transactions; inadequacies or failures in internal controls, or in systems and services; reputation risk; legal risk; security breaches; or natural disasters that affect business activity”. (IMF 2001:10)

Input and output risk is the inadequate or inconsistent supply of materials. Benoit (1996) lists other factors such as breach of contract by purchasers or suppliers, price increases regarding project inputs and inadequate demand for project output, which would also fall in this category.

2.4.3 Market Risk

Refers to the risks associated with changes in market prices, such as interest rates, exchange rates, commodity prices or the cost of the government's debt servicing. Part of this market risk is "mismatched local currency revenues versus hard currency exposure, interest rate mismatches, perceived volatility of African markets ... and relative infancy of local domestic debt markets". (Berman 2004:20)

The International Monetary Fund (IMF) in their paper Guidelines for Public Debt Management (2001) suggest that, for both domestic and foreign currency debt, changes in interest rates affect debt servicing costs on new issues when fixed-rate debt is refinanced, and on floating-rate debt at the rate-reset dates. For these reasons short-duration debt is usually considered to be more risky than long-term, fixed-rate debt.

2.4.4 Political Risks

Political instability plays a large role in an area such as sub-Saharan Africa and , therefore, the risks associated with this need to be identified by any potential investors. Benoit (1996) lists potential political risks as:

- the risk that the government will expropriate the project facilities;
- the risk that the government will withhold licences required for construction or operation of the project;

- the risk that government will breach its contractual obligations to investors;
- the risk that government will act to limit the ability of investors to convert their local currency into foreign exchange;
- law changes that could affect operation of the project; and
- the risk of civil war interfering with the project's operation.

2.4.5 Force Majeure

'Force Majeure' refers to acts of God such as floods, earthquakes and other natural disasters. According to Benoit (1996) these also include war and civil disturbance. Kerf (1999) states that these risks are beyond the control of any of the parties involved in the concession and are usually borne by the concessionaire, who covers himself or herself through adequate insurance. These circumstances can also affect the project indirectly by preventing sub contractors or suppliers from delivering to schedule and hence causing delays and impairing the project's cash flow. Berger (1985) points out that the impact of a *force majeure* situation does not have to be on the project directly, but can also have the effect of preventing third parties from meeting their obligations, which would affect the project's cash flow.

2.4.6 Risk Mitigation

As discussed above there are several risks which face different participants in

privatisation and/or large infrastructure projects. There are several methods that participants can employ to safeguard against potential risks or spread the risk to more than one party. These safeguards can come in the form of guarantees, insurance, completion incentives, reserve accounts or escrow accounts, all of which serve to limit the risk for participants. This helps to safeguard their investments. The different methods which can be employed have been covered below.

2.4.6.1 *Guarantees*

Benoit (1996) describes guarantees as being the most common method of reallocating risk responsibility. This is done by the guarantor backing the contractual obligations of one party to another party. There are basically two types of guarantees; payment and performance. Payment guarantees involve an obligation by one party to pay another which involves a payment undertaking, while in a performance guarantee the “party obliges itself to take certain actions.” (Benoit 1996:15)

2.4.6.2 *Insurance*

Under traditional insurance investors protect themselves against possible circumstances or events by purchasing insurance. Payment normally takes the form of monthly payments or premiums and, in the case of a claim the insurer pays the holder of the policy from accumulated funds. Project insurance works

much the same way: “In this manner insurance serves to mitigate through the medium of the insurer the financial exposure that would otherwise be faced entirely by the project participants”. (Benoit 1996:15)

2.4.6.3 Put Options

Derivatives are also used to protect investors in project-finance operations. Kon (1999) describes a put option as being the right to sell. In such situations the investor, for example, is given the option to require another party, such as the sponsor to buy certain project assets they may own at a specified price on the occurrence of certain events. “This option provides investors with comfort that they can recoup directly from the sponsor part or all of their investment under certain conditions”. (Benoit 1996:17) These are similar to payment guarantees.

2.4.6.4 Completion Incentives

Completion incentives are one way to incentivise a contractor to complete a project on time and hence ensure that cashflows and schedules are adhered to. Schlotfeldt (1999) suggests that much of the risk associated with completion of a project on time is often shifted from the concession holder to the contractor by means of instruments such as early-completion incentives and liquidated damages. Completion incentives provide the contractor with a premium for every day that a project is completed ahead of schedule. In the case of a port this would allow additional unbudgeted for traffic to use the port and hence result in

higher revenues. This type of incentive can however work against contractors should they fail to complete a project on time resulting in financial penalties.

2.4.6.5 *Reserve Accounts*

Reserve accounts are aimed at providing financial buffers when there has been an overrun of expenditure or lower than budgeted revenues. According to Schlotfeldt (1999), the level of these accounts varies from 1 percent to 10 percent of the total tendered construction cost.

2.4.6.6 *Escrow Accounts*

A project sponsor may pledge certain assets to enable them to secure a guarantee it has made to an investor. “Under this mechanism, the sponsor provides the investor with priority access to certain assets to back the guarantee”. (Benoit 1996:18) If this security takes the form of a dedicated account it is called an escrow account, which is often managed by an independent trustee. The sponsor would then deposit revenues or other income into this account for the benefit of the secured party.

2.5 Possible Factors that May Affect the Success of Financing Portion of Public Private Partnership Transactions

2.5.1 Allocation of Risk – Integration of PPP and Debt Financiers

The allocation of risk is a necessary part of PPP transactions. An allocation of risk is discussed between the parties involved but usually constitutes the party best equipped to carry the risk would carry it.

2.5.1.1 Role of government

Governments would be the partner most likely to perceive the need for an infrastructure project and determine whether the project would be suitable for financing or not. Estache & Strong (2000) suggest that would be determined partly by the political and economic situation facing the country as well as the characteristics of the project. In order to assist in the success of a PPP transaction the government may “require clarifying laws relating to the recognition and enforcement of contractual obligations and security rights, or the laws relating to nationalisation, expropriation, and arbitration”. (Estache & Strong 2000:13) In PPP transactions, most of the political risks are carried by government while most of the commercial risk is carried by the concessionaire.

2.5.1.2 *Role of debt providers*

The debt providers have several roles to play in these transactions. In the form of debt provision and the structure for the various loans which generally take the form of non-recourse project finance. These loans are normally raised by the concession company but the lenders continue to carry a large portion of the risk. “The banks will be expected to finance the project on a non-recourse or a limited recourse basis, emphasizing project revenues as the primary source of repayment of interest and principal. In return for agreeing to finance the project on such a basis, the banks are likely to require the ability to exercise a considerable degree of control over the special purpose vehicle [SPV] and its activities and have ‘step in rights’ should any one of a large number of triggering default events occur”. (Estache & Strong 2000:14) These transactions could not take place without the debt providers and it is up to them to structure a deal that will keep all parties interested while still retaining a margin for themselves as well as a structure with an acceptable level of risk.

2.5.1.3 *Role of Operating Company*

The project sponsors will normally form a SPV to act as the concessionaire. The concessionaire usually enters into operations agreements and maintenance agreements with an experienced operator whose duty it is to maintain the concession at a required standard, such as the port in the POM transaction. Most of the operation’s risk is thus transferred the operating company. According to

Estache & Strong (2000) an SPV is only a legal form and still needs to ensure that obligations are performed and objectives are met under the concession agreement by subcontracting those obligations to a third party. The SPV is also responsible for the supply of raw materials and linked services, as well as agreements with other parties for project outputs.

2.5.2 Government Support

The role of governments and the main provisions that are commonly sought for financial support from governments have been covered in Section 2.3.3 and apply here. The role of governments has also been partly covered in Section 2.5.2.1.

Estache & Strong (2000:13) continue that “it normally will be the government that perceives the need for an infrastructure project and determines whether it is suitable for project financing ... will depend on the political and economic situation facing the country as well as the characteristics of the country itself.” Estache & Strong (2000) further suggest that this support by government can include such things as enacting special legislation, changing the constitution or even clarifying laws to enable financing to proceed.

Many governments recognise that underdeveloped local debt markets and high risks mean that many financiers would not consider doing business in their

countries due to the risks and difficulties involved. Financiers need governments to break down barriers where they exist and show support.

2.5.3 Relationships

As Estache & Strong (2000) suggest, project finance does involve a large number of participants. The interests of all parties and the roles they play need to be catered for and agreed upon. The government would typically perceive the need for infrastructure projects, while the public sector is typically interested in obtaining needed infrastructure or services at reasonable cost and with attention to social aspects. (Estache & Strong 2000)

In order for all parties to successfully integrate and achieve the set objectives, Anslinger & Jenk (2004) suggest that alliances need to be formed as a way to grow business and maximise shareholder value. Anslinger & Jenk (2004:18) have identified several factors that lead to the successful creation of alliances.

These factors point to the need for:

- Developing clear, common objectives and a definition of success;
- Ensuring proper alliance form;
- Determining appropriate governance model with clear decision making;
- Anticipating the most likely conflicts;
- Planning for evolution; and
- establishing clear metrics to track and measure success.

According to Anslinger & Jenk (2004), alliances can be a valuable tool to ensure that all parties work toward the same goals and to ensure better co-operation and hence success between different players.

2.5.4 Tension in the Transaction – Debt and Equity

Among banker decision makers and the leaders of parastatals there seems to be concern about the tension and resulting conflict created by equity negotiations. This tension often arises during the equity-negotiation stage of PPP transactions. There was tension in the equity negotiations of the Port of Maputo privatisation that almost caused the project to fail. Of great interest in the Port of Maputo negotiations is the cause of this tension and how this could have been better managed to promote a successful conclusion to the transaction.

2.5.5 Conflict

According to Kersten (2003), conflict is a daily occurrence in most organisations, the outcome of which depends on the negotiation skills of the individuals or parties concerned. Negotiation skills are critical for both parties to reach an amicable and reasonable agreement, especially as organisations are becoming less hierarchical, less concerned with positional authority, and have less clear boundaries of responsibility and authority. Kersten (2003) identifies opposing

interests as being at the core of most conflicts, but also lists several other factors with regard to conflict.

These factors are:

- competition over scarce resources and time;
- ambiguity in responsibility and authority;
- differences in perceptions, work styles and attitudes; communication problems, and individual differences ;
- increasing interdependence as boundaries between individuals and groups become increasingly blurred ;
- reward systems: organisations usually have complex and often contradictory incentive systems;
- differentiation: division of labour, which is the basis of any organisation, causes people and groups to see situations differently and to have different goals; and
- equity vs. equality: continuous tension exists between equity (the belief that one should be rewarded relative to one's relative contributions) and equality (the belief that everyone should receive the same or similar outcomes).

These factors can all contribute to conflict, and an understanding of these factors and how they can affect the outcome of any negotiation can help to mitigate this effect and promote the resolution of tensions.

2.5.6 Key Themes of Equity Tension And Tension Amelioration

The researcher identified several themes that have emerged in studies about tension between different negotiating parties. These have been identified as:

- Sovereignty – the notion of loss of sovereignty by giving away equity or part of a national asset. Milanovic (1996) defined sovereignty as supreme authority within a territory and added that full sovereignty is neither reachable for most countries nor desirable. Greater sovereignty was often traded for reduced income. Milanovic (1996) also mentioned that there was a trade-off between sovereignty and income; countries did not choose to maximise sovereignty but rather prioritised an optimal level. They chose a combination of income and sovereignty that allowed them to maximise welfare.
- Ownership dynamics – percentages and perceptions of ownership i.e. 49 percent vs. 51 percent, with the owner of the bigger stake having the advantage.
- Institutional authority - what is good for the state and what is perceived will be the greatest benefit to the state.
- Financial reality – what to do realistically by looking at the degradation of the facility and the indebtedness of the country. For example, could the POM have been rehabilitated with local funds?
- Emotion – bankers tend to have a simplifying impact on the transaction compared to parastatals 'who muddy the water'. This could be the result of emotions and the interplay of different personalities in these transactions.

These issues need to be closely studied with regard to the different positions players held in the negotiations to see which parties held different positions on these issues and whether these positions were held on the basis of emotion or reality. This will assist the researcher in understanding what helped to ease the tension and resulted in a smooth outcome of the negotiations.

2.6 Conclusion

Peters (1998) argues that partnerships are an important instrument for government intervention into society. Neither are they the answer to all problems of public policy, nor are they merely a symbolic and ineffective mode of course.

To harness the potential of PPPs requires that their unique characteristics be acknowledged and exploited. According to Gerrard (2001) what needs to be considered first is their ability to provide a flexible framework for public and private sectors. Then, consideration should be given to how PPPs operate at “the boundary between public and private sectors”. Finally their status as a form of business that is regulated only by its constitution and contracts needs to be examined.

From the review of the literature similar conclusions can be reached that PPPs can be appropriate as viable, alternative approaches to certain types of state and

local economic development efforts and the public-sector should look for new partnership opportunities, while paying careful attention to fundamental partnership issues.

Despite this, the project finance component of PPPs can be very complicated with numerous financiers and other players involved. In order to ensure success different parties need to achieve what they deem to be a satisfactory and amicable deal, while ensuring their aims are realised in the transaction. Estache & Strong (2000) point out that project finance transactions are more complex than traditional financing. They typically involve many more parties and result in higher transaction costs. Estache & Strong (2000) state that the negotiations on various aspects of these projects are usually protracted and can be contentious.

Owing to the nature of these transactions, any of the factors discussed can play a role in the breakdown of negotiations, which could lead to the failure of the financing aspect and, eventually, the project as a whole.

2.7 Research Questions

The introduction to this research report identified several key trends with regard to current infrastructure development in the Southern African region. It is argued that, despite some of the pitfalls that are found with PPPs and the difficulties in

executing such transactions PPPs seem to be the most favourable way of privatising state control of infrastructure monopolies.

In line with this trend, a number of PPP transactions have already taken place in the Southern African region, with the focus of this report being the privatisation of the Port of Maputo, with more such concessions planned for the future. The focus of this report has been on the financing of PPP transactions and how these may be successfully concluded from this perspective.

The research problem as identified in the introduction to this research is:

“To determine the factors that affected the successful conclusion of the debt portion of the Port of Maputo concession agreement.”

The review of the literature suggests that the following three issues are likely to have had an important bearing on the successful conclusion on the Port of Maputo privatisation, as well as on the successful conclusion of other PPP transactions in general:

First, an understanding of debt and equity finance and the role that these two types of finance play in large infrastructure transactions. Along with this exploring whether these two aspects are dependent upon one another and whether deals are structured with the debt and equity sides of transactions having no bearing upon one another or not. These factors will be instrumental in determining what options are open to a financier when structuring a deal, and the extent to which a

financier would feel confident that the investment would yield acceptable returns. This could determine the involvement of that financier in the transaction at all.

Secondly, the literature covers the issue of risk and suggests that this issue is an omnipresent one for all infrastructure concessions. Factors such as which risks are important, who carries them and how they can be alleviated, have an important bearing on the viability of any transaction. Should the assessment of risk be incorrect, the transaction will either be uncompetitive, due to a higher cost of capital than warranted, or it might result in substantial problems and possible monetary loss over the term of the concession, due to the under pricing of the risk present. These issues therefore have to be identified at the outset and incorporated into any PPP transaction.

Thirdly, factors that affected the success of the Port of Maputo Transaction, and that could have a bearing on other future PPP transactions of this nature. An examination of this is likely to provide pointers to problems and risks and therefore provide ways of potentially ameliorating any possible tension to ensure the success of other PPP transactions in the future.

The research questions that emerge from the literature review are therefore as follows:

- Are there tensions created by the equity portion of the negotiations and, if so, what were their interrelationships with the debt negotiations?

-
- What risk mitigating strategies were applied to the POM transaction, and what was their relation to the equity and debt components of the negotiations?
 - What were the mitigating factors in the POM transaction, and what factors can be attributed to the success of this and other PPP transactions as a whole?

The investigation into the factors that affected the successful conclusion of the debt portion of the Port of Maputo concession agreement will therefore be based on the above questions.

3. Research Methodology

3.1 Research Method and its Underlying Characteristics

The problem stated in Section 1.3 above required that the researcher studied the factors that affected the successful conclusion of the debt financing portion of local transactions in PPP negotiations. Leedy and Ormrod (2001) suggest that the best method for this type of research is qualitative rather than quantitative.

Perry (2001, cited in Human 2003) stated that when a specific site was to be studied in depth for a predefined period of time, the case study method should be used. “All qualitative approaches have two things in common; first they focus on phenomena that occur in natural settings – that is, in the real world. And second they involve studying all those phenomena in all their complexity.” (Leedy & Ormrod 2001:147). The qualitative-research case-study method therefore lend itself well to the type of research done here.

3.1.1 Qualitative Research

Yauch & Steudel (2003) suggests that one of the benefits of a qualitative approach is that it is broad and open ended, which allows the participants to raise issues that matter most to them. The study also “continues to evolve over the course of an investigation”. (Leedy & Ormrod 2001:148)

Human (2003) identifies three aspects of the qualitative research method appropriate to this study. These aspects are discussed below.

- Theory building - The purpose of the present research was to explore, interpret, describe and explain how debt financing in PPP transactions could be a success and the factors that could be attributed to this. In this sense the purpose of this research was to add to theory building, rather than to test existing theory.
- Emergent design - The research process may have uncovered a number of variables with regard to the debt financing aspect of the case being studied which were unknown to the researcher. This implied the need for an emergent or flexible design.
- Role of the researcher – Data was collected through unstructured interviews and observations as there was a possibility that the research process might have been influenced by the researcher's personal view. The role of the researcher, and the researcher's ability to interpret collected data, was critical to the understanding of the case study.

3.1.2 Case-study Method

The primary reason for choosing the case-study method was that it allowed for

the study of the debt financing portion of the PPP transaction in its natural setting. As Leedy and Ormrod (2001:149) highlight, a case study is useful “for learning more about a little known or poorly understood situation.” Benbasat, Goldstein, & Mead, (1987, as cited by Human 2003) suggest that the case study method lends itself well to developing a better understanding of how context and innovations interact as part of managerial and organisational issues. The method is, therefore, well suited to the capturing of little-known knowledge from individuals, as well as the consequent development of theories. The case-study method thus appeared to be the most suitable method for this study of the Port of Maputo privatisation and the debt financing aspect of the project.

3.1.3 Interpretive Paradigm

The interpretive paradigm has certain characteristics and underlying principles. Human (2003) discusses the main characteristics of the interpretive paradigm as:

- Ideographic methodology - Most social research was concerned with the nomothetic or general case rather than the individual, with the latter studied only to allow for generalisation. Benbasat *et al.* (1987, as cited by Human 2003) suggest the use of ideographic methodology in case studies because it allows for the understanding of a specific phenomenon in its context - the examination of a single situation. In this situation a specific case site was

studied with the view to understanding the case better and, by doing so, adding to theory building.

- Anti-positivism - The positivist believed that experiment, observation and measurement was the core of the research. In the proposed form of research there was no formal hypothesis testing, measuring of variables or drawing of inferences from a representative sample of a stated population. Therefore, within the assumption of epistemology, the anti-positivism principle was more applicable to the proposed research (Klein & Myers, 1999; as cited by Human, 2003).
- Voluntarism - Burrell and Morgan (1979, as cited by Human 2003) writes that assumptions about human nature fall within a spectrum where one end states that people's reactions can be pre-determined and the other end states that people's reactions could not be determined in advance. The proposed research would adopt a standpoint that inclined towards the school of thought that people's reactions could not be pre-determined.
- Nominalism - Within the ontological debate, nominalism (as opposed to realism) did not assume that the world was made up of hard, tangible, immutable structures and that the world did not exist separately from the observer (Burrell & Morgan, 1979; as cited by Human, 2003). This was relevant to this method of research, since the role of the researcher in the

interviews, observations and interpretations was intertwined with the activities themselves.

From the above-listed characteristics it was apparent that the interpretive paradigm allowed the researcher to develop an understanding of a specific situation in a specific context and that this method of study was suitable for the proposed research.

3.2 Case Site and Interview Sample

3.2.1 Case Site

The reason for choosing the Port of Maputo privatisation was the situation of this particular transaction. By all accounts, the transaction was going to fail because of failing negotiations and the reluctance of financial backers to involve themselves in what seemed to be an extremely risky transaction. The negotiations were, however, brought back from the brink of failure by numerous manoeuvrings and agreements spurred on by the Mozambican government and the other parties involved, bringing them to a successful conclusion. Of particular interest to the proposed research was the structure of the transaction from a finance point of view, an understanding of the risks and conflicts, conflict amelioration and what factors influenced the successful conclusion of the transaction.

3.2.2 Interview Sample

Schmitt & Klimoski (1991, as cited in Schlottfelt 1999:55) state that “as a rule, qualitative studies would typically involve small samples” (p117) and note that greater insights can be gained from investigating a small sample in depth rather than by investigating a large sample in a more superficial way. “The focus on small samples has several implications, with one result being greater insight into a particular case”. (1991:117)

Since the study was qualitative in nature, a balance had to be found by the researcher in ensuring that enough interviews were conducted so as to uncover new information. If too few interviews were conducted, nothing new may have been uncovered. Too many interviews may have resulted in information that lacked enough depth to be of any relevance. In addition to this was the limited number of specialists in the field of PPPs and more specifically those involved directly with the POM transaction, there was also the problem of some high-ranking Mozambican government officials from whom the researcher could not raise a response. For these reasons the researcher decided to interview a broader spectrum of candidates that would give a better view of PPPs in Southern Africa as a whole while using the POM as a case study and a benchmark.

Since there were few respondents, a non-probabilistic sampling technique, a judgement sample, was used.

The sample of interview respondents was drawn from the organisations as listed below, as they were identified as being of importance:

- the concessor;
- commercial lenders and infrastructure financiers;
- development agencies; and
- consultants to the concessor

Candidates were initially approached telephonically and, after an explanation of who the researcher was and the type of research being conducted, candidates were asked to participate. On agreement, further information was emailed. Where the researcher could not contact identified candidates telephonically, email was used. Some of the candidates were interviewed, with the meetings lasting between one and one-and-a-half hours. Some candidates preferred to respond via email because of time constraints.

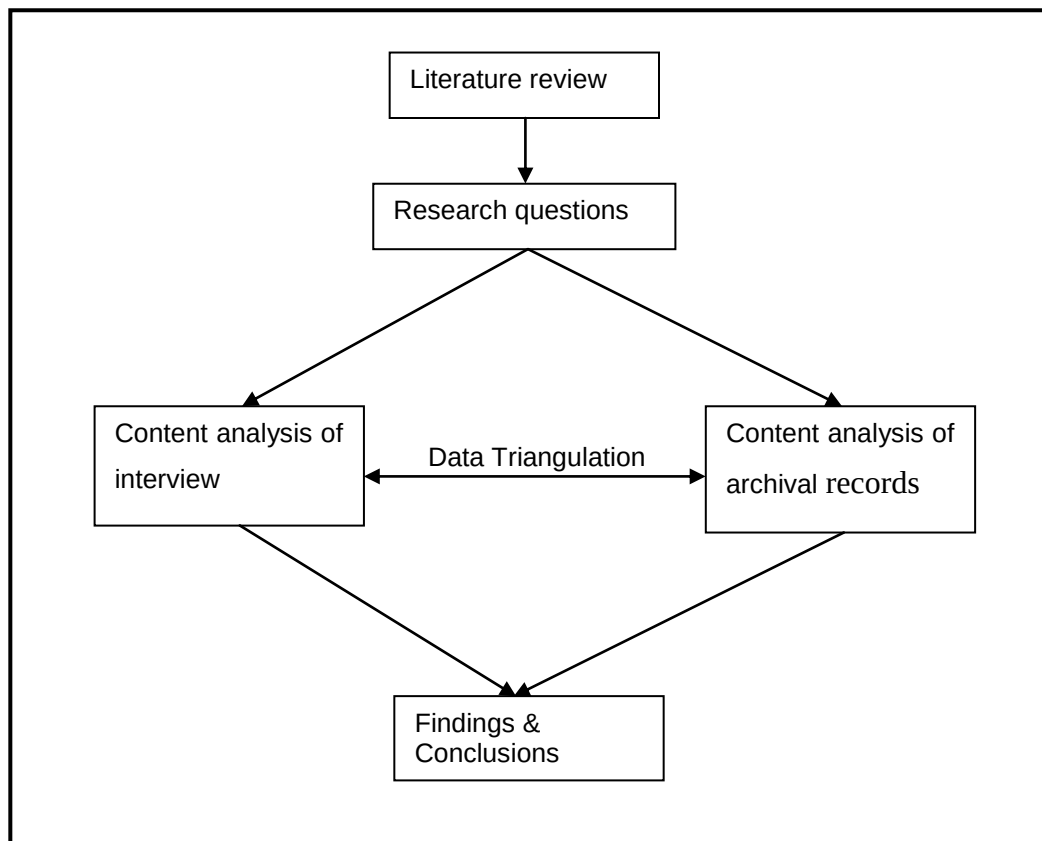
The firms and individuals interviewed are listed in Appendix 1.

3.3 Research Design

Rowley (2002, as cited by Human 2003:50) defines 'research design' as being the "logic that links data to be collected and the conclusions to be drawn to the

initial questions of a study”.

Figure 5: Schematic Representation of Research Methodology



Source: Schlotfeldt (1999:51)

This research design should allow the researcher to use unstructured interviews to explore the research propositions (as stated in the consistency matrix) or problems with the potential for understanding and discovering new information

that may not have come to light in the literature review. The process of the research is represented diagrammatically above.

3.3.1 Building the Initial Model by Formulating Research Propositions

The focus of the initial model was to determine the factors that might have affected the successful conclusion of the debt-financing portion of the Port of Maputo PPP negotiations. These factors led to the stating of the initial research propositions that acted as the initial model. The initial model therefore explored the conflict in the debt-financing side of the Port of Maputo PPP transaction and other PPP transactions, and then posited various reasons for the possible failure of PPP transactions and how those reasons could be mitigated, as well as possible success factors and risk-mitigation strategies in the financing side of these transactions.

3.3.2 Developing a Semi-structured Interview Schedule

A semi-structured interview schedule was used during interviews to assist in ensuring the reliability of data collection and that the propositions were tested as thoroughly as possible. Email was also used in order to get responses from candidates that the researcher could not meet. These methods ensured that a proper analysis could be made of the data. As Human (2003) suggests, the interview schedule needs to remain flexible to allow for any relevant information to emerge. For this reason, none of the questions in the schedule were

structured, closed questions. The questions focused on the 'how' of the transaction, and prompting ensured that the questions were answered as comprehensively as possible.

3.4 Data Collection

3.4.1 Interviews as the Main Data Source

An interview schedule was drawn up and was used as the basis from which the interviews were conducted. Where possible, interviews were conducted at the interviewees' respective offices to ensure that any documentation that may be required by the interviewee during the interview was on hand.

At the beginning of the interview the interviewee was briefed on the objectives of the research and on what was being explored. At this stage permission was obtained from the interviewee for the use of the information supplied. As Human (2003) states, in order to avoid any responses that were based on what is viewed by the interviewee as appropriate or desirable rather than what the interviewee truly believes to be the case, the interviewees were assured that pseudonyms would be used to disguise their responses.

During the interviews notes were taken.

3.4.2 Other Data Sources

Other sources of data included documentation, which was made available to the researcher by interviewees as well as observations made by the researcher. The data selected was only that which was relevant to the study and which had not already been covered in the literature review.

3.4.3 Triangulation

“Multiple sources of data are collected with the hope that they all converge to support a particular hypothesis or theory”. (Leedy & Ormrod 2001:105). Yin (1994, cited in Human, 2003:57) suggests that triangulation allows for the use of data from multiple sources, each of which may possess different errors or weaknesses, in order to ensure a more objective understanding of the data across the various sources and to assist in data convergence.

The researcher used data-source triangulation by looking for common themes that related to debt financing in the PPP transactions that appeared in the data collected from the in-depth interviews, observations, and any documentation that was supplied by interviewees.

3.5 Data Analysis and Interpretation

3.5.1 Data Analysis

Rowley (2002, cited by Human 2003:60) suggests that, although there were no recipes for the analysis of case study results, good case study analyses adhere to certain principles. These principles were adhered to in this research, in that the data analysis:

- used all relevant data;
- considered all major rival interpretations (as obtained through the literature review, as well as during interviews and the reading of additional documents);
- addressed the most significant aspect of the case study; and
- drew on the researcher's prior knowledge of the subject obtained during the literature review, but in an objective manner.

Human (2003:61) mentions several methods that can be used in data collection and notes that, "due to the emergent nature of this type of research, all or only some of these analyses might be used and can only be selected once data collection is underway".

These methods are:

- organisation of the facts into a logical order, adding notes where appropriate;
- classification or clustering of the facts into categories;
- identification of patterns and/or themes that emerge from the data during ordering and/or categorisation; and
- content analysis in order to distinguish among data elements that relate to the various aspects of the theoretical model.

All collected data was taken into account in the data analysis.

3.5.2 Data Display

The data was displayed using the Data Mapping technique. Jones (1985:61, cited by Schlotfeldt, 1999) defines Data Mapping as a way of “modelling peoples’ beliefs in diagrammatic form”. Schlotfeldt (1999:76) wrote that Data Maps consist of two elements. First, the respondents' perceptions and opinions relate to the situation under consideration. Insightful and recurring perceptions and opinions are extracted and grouped according to common themes. Second, the relationships and interdependencies between these themes and ideas are indicated by linking them with arrows.

In the present research the Data Maps present a summary of the interviews, showing all the themes and the connections. By looking at these themes, the

researcher can identify similar ideas and common themes that emerge from different interviews and can use this information to formulate ideas and make conclusions.

3.5.3 Data Interpretation

Data interpretation was a fundamental part of the research process. As Leedy & Ormrod suggest (2001), the display of data is important, but the interpretation of that data is the essence of the research. During the process of interpretation, new information on the success of debt financing in PPP transactions was uncovered that was not known except by those holding the intellectual capital to it. Some of the data analysis occurred during the data collection, while many of the interpretations were made during the data analysis phase. In line with the theory of triangulation, all aspects of the data were closely looked at to draw the most accurate conclusions without bias.

3.6 Validity and Reliability

3.6.1 External Validity

‘External validity’ refers to the implications and relevance of this research for other companies in different areas. The case study method was based on theory building rather than on generalisations. Yin (1994, cited by Human, 2003) stated that external validity may be established for even a small domain, to which the

findings can be generalised, while Rowley (2002, cited by Human, 2003) suggests that generalisations can be made if the case study design has been informed by theory and is, therefore, seen to add to theory building. Human (2003) also suggests that case-study protocol would assist in ensuring external validity.

3.6.2 Internal Validity

The data produced from the multiple research methods used allowed the researcher to draw 'reasoned' conclusions. According to Leedy & Ormrod (2001) in qualitative research the researcher's biases and values will always influence the interpretation of the data. To ensure that all aspects of research are valid, the researcher should seek varying perspectives from multiple sources.

3.6.3 Reliability

According to Leedy and Ormrod (2001), reliability is defined as the extent to which similar research conducted in future will result in similar outcomes. The research was carried out with the use of a semi-structured approach, with the basis of information coming from interviews. Although bias was avoided as far as possible by the researcher, the data collection process lends itself to interpretation by the researcher. Consequently the researcher played a significant role in the final interpretation and results. Using this interpretive approach it was unlikely that any two researchers using the same methodology would achieve identical results. Rather, it was hoped that very similar results

would be achieved.

3.6.4 Consistency Matrix

A consistency matrix is a useful tool to assist with the clarification of the sub-problems, research propositions, the sources of theory that gave rise to research propositions, the sources of data that were used to validate research propositions, and the subsequent data analysis. This matrix used in this research helped to ensure that the research problem was covered and that all issues were addressed comprehensively. The consistency matrix for this research is shown on the next page.

Figure 6: Consistency matrix

Research Problem: “What factors affected the successful conclusion of the debt portion of PPP of the Port of Maputo concession agreement”				
Research Questions	Data & Sample	Questions to respondents	Methodology	Data Analysis
“Are there tensions created by the equity portion of the negotiations and if so what were their interrelationships with the debt negotiations?”	The Data: The data was qualitative in nature, made up of constructs, themes, perceptions and opinions. The Samples: The interview sample was selected on a judgment basis and consisted of 10 respondents. The documentation to be analysed was selected on a discretionary basis, determined by availability and relevance.	Interview Schedule Questions 1-2	Qualitative Research: The research was qualitative in nature to match the properties of the data. In particular it consisted of : • Non-scheduled interviews and emailed responses • Study of official documentation	Content Analysis: Content analysis was carried out on the documentation to discover the relevant information Common themes, constructs and perceptions were identified and extracted from the interviews. Triangulation: The results obtained by the two methods above were cross-referenced to reduce bias and enhance the validity of the results.
“What risk mitigating strategies were applied to the POM transaction, and what was their relation to the equity and debt components of the negotiations?”		Interview Schedule Questions 5 - 6		
“What were the mitigating factors in the POM transaction, and what factors can be attributed to the success of this and other PPP transactions as a whole?”		Interview Schedule Questions 3 - 4		

4. Research Results

4.1 Introduction

This chapter presents the data obtained from respondents in response to the questions posed by the researcher. The results are drawn primarily from the data maps included in Appendix 2. The research questions were identified in Chapter Two and for ease of reference are listed again below:

- Are there tensions created by the equity portion of the negotiations and, if so, what were their interrelationships with the debt negotiations?
- What risk mitigating strategies were applied to the POM transaction, and what was their relation to the equity and debt components of the negotiations?
- What were the mitigating factors in the POM transaction, and what factors can be attributed to the success of this and other PPP transactions as a whole?

4.2 Sample

The respondents were chosen by means of a judgement sampling technique, as discussed in Chapter Three. Respondents were selected on the basis of

their being industry experts and/or from an association with the Port of Maputo transaction. The sample was selected to provide the best insights into the research questions. The sectors, firms and individuals interviewed are listed in Appendix 1.

4.3 Interview Transcripts and Data Maps

Responses from the different interviewees were transcribed and used for the content of the data maps. A single data map was compiled from each response. These data maps are included in Appendix 2. Some respondents requested to remain anonymous, so the data sheets have not been linked to any one respondent in particular. All details for each respondent have been listed in Appendix 1.

4.4 The PPP Transaction

Initially, the aspects of the principle of PPPs and the transaction structures were covered by the researcher in order for him to get a better idea of the way these transactions work. Even though not directly linked to the questions that were posed, the researcher felt this to be a vital component of the research.

4.4.1 Principle of PPPs

All the respondents commented on the principle of PPPs and how important it was to enter into a PPP transaction for the right reasons. The debt financiers agreed that they saw two basic reasons for procuring a PPP: access to private sector capital and access to private sector expertise. Other respondents had a slightly different view and felt that the most important issue for engaging in a PPP transaction had to be for social reasons. Some respondents listed different reasons as being more important than others. These have been summarised below:

- The transaction must be taking place for the good of the local people and the country as a whole.
- Either the conclusion of the PPP transaction will lead to a better quality of life for locals by increasing tourism, greater trade, providing jobs, making access easier etc. or not. If the conclusion of the transaction would not have a net benefit then it should not be considered.
- PPPs should be used to develop a region, develop a sector, or develop a country.
- Convincing people that a PPP is desirable is all part of a building confidence in a PPP.
- Benefit has to be seen by all parties involved.
- The feasibility study will determine from the outset whether the project will be viable or not. Based on this a decision can be taken as to whether

- to proceed and whether the project will meet expectations.
- It is necessary to prove to the government that the project is worth doing. This has to be compared to public sector comparison; and
- A PPP creates a solid structure to reinvest in an asset in a controlled environment.

Further to this, respondents mentioned one factor that is often misunderstood or confused when PPP transactions are being dealt with and needs clarification. PPPs are often erroneously viewed as the privatisation of an asset, while they are really the utilisation of a state asset by a private party for a set period of time. The state does not relinquish responsibility for the function of that asset. Rather PPPs assume there is an inefficient service delivery by the public sector providing that service and therefore take over the running of that asset in order to provide a better service delivery and, where appropriate, realise profits. One respondent pointed out that care must be taken to distinguish between patrimony (i.e. privately owned assets belong to the entity being privatised or having responsibility for the public service) and public-domain assets. Public domain assets are subject to public law and must follow certain rules and procedures if the ownership is being 'privatised', or if it is being ceded.

4.4.2 The Transaction Structure

Respondents agreed that the structure of PPP transaction is dependent on the

kind of project (corporate or project finance), the time scale, level of returns, risk and who was involved. There is no definite structure but rather different needs produce different solutions. While all parties involved need to be realistic and objective for the project to work, respondents agreed that generally the numbers would help work out the levels of debt and equity and hence lessen potential tension and assist in moving the project closer to conclusion. The start of the process is the development of a comprehensive financial plan followed by a thorough due diligence. This gives a good indication of the viability of the project. The negotiation of the cost of finance is usually a relatively simple affair, as the financiers use the market as a base case because there is a level determined by the market for expected returns.

Respondents felt that the respective roles, intentions and aims of the two parties are important and should be recognised. In the case of the POM transaction, the ‘concessionaire’ took over that part of the existing infrastructure that was useful for the future operation of the port. The remainder of the assets remained with the original operator. Realistic parameters have to be set and adhered to in order to ensure success and co-operation.

Two respondents mentioned that if the government were not retaining a stake in the concession company or in the activity, there would be little tension over the equity or debt, except to the extent that government is asked by lenders to provide guarantees. Respondents also mentioned that, from a government

perspective, structuring an SPV often shielded the government from some of the debt/equity dynamics and tension. The result is that the government would negotiate with the consortium and would see the debt/equity as one voice that lessened conflict in negotiations.

One respondent commented, “As a general rule, I would have said that the quantity of debt in a project would determine the economics of the deal. Once the maximum amount of debt in a project had been ascertained (i.e. how much the deal could be geared), the makeup of the equity could be worked out.” The maximum amount of debt in a deal would be a result of factors like the debt-carrying capacity of the project (as reflected in a debt service cover ratio). Lenders needed the sponsors to put in actual capital (for example, the debt-carrying capacity of a project may have resulted in a 90:10 debt equity ratio, but lenders would want to see sponsors commit capital to the extent that a 70:30 ratio would have been achieved).

The debt/equity dynamics vary according to the nature of a project, but equity investors would not invest unless they saw desired returns, and neither would lenders. Both help to bring stability to the transaction. The split between debt/equity is determined by the nature of the project. Neither party would get involved unless they saw their desired or, at the very least, acceptable returns. Where a project is difficult to finance, it can become an issue if the investors want to self-finance the rehabilitation and development expenditure through revenue.

More often than not the state would disapprove of such a structure. The amount of equity a lender requires is dependent upon a host of factors, all of which either give comfort, or not, to the bank that the borrower would be able to retire the debt to. However, a middle of the road agreement can be reached where debt providers meet the equity providers in order to make the project viable. One consideration for the level of equity is a provision for the amount of debt service that is required, and the apparent cash flows available to amortise that debt. Considerations for the lender are determined by the lender's risk tolerance, the apparent validity of the projected cash flows, and the investment horizon for the private sector. The more deals that sponsors have been involved in, the better of an idea they have of what the terms should be.

4.5 Debt, Equity and the Dependency of each Component

The first research question was 'Are there tensions created by the equity portion of the negotiations and, if so, what were their inter-relationships with the debt negotiations?'

The different aspects of this question have been covered below.

4.5.1 The Debt Component

Respondents highlighted that there are many different aspects to the debt side of a PPP transaction, and the views the researcher was given depended on which party was responding. What did emerge were several common themes.

Respondents felt that the debt component of PPP transactions was essential, partly because it is very rare to have a transaction financed by 100 percent equity (hence the project needed debt financiers) and partly because of the stability, thoroughness and professionalism that the debt providers brought with them, as was the case in the POM transaction.

4.5.1.1 Lenders' Position

There were several points that were raised by the respondents regarding the place of the debt providers in a PPP transaction. These points were:

- debt providers are a necessary part of PPP transactions;
- debt providers have the edge over clients as they can find business elsewhere;
- debtors may be more conservative than equity investors;
- lenders have very clear cut and fair under conditions under which they will invest;
- debt providers do not own the project but are just loaning funds;

- debt is a necessity for building national assets or transforming them, (something that cannot be done without outside assistance);
- different financial partners have different horizons;
- debt providers will push for their required level of return;
- debtors often have a more conservative view of a project; and
- lenders are very thorough and have a clear set of objectives before getting involved in any project.

Finally lenders tend to think on the same terms it is therefore unlikely that borrowers will get a better deal from other lenders. It would be better for a customer to stay with an institution (lender) and develop a relationship rather than shopping around, as was the case with Standard bank and POM.

4.5.1.2 Debtors' Investment Strategy

According to respondents, the rate at which debt providers will lend money or even become involved in a project is dependent on a few different factors. Initially whether lenders would become involved would depend on the results of the due-diligence report and then the value assessment and the economic evaluation, to ensure that the project is viable and sustainable. Lenders often appoint their own advisors for predictions on traffic, throughput etc., as this can be used to determine lenders' base case. The base case is a level at which lenders and borrowers will lend and borrow money respectively. This is generally set by the market and by previous experience in the market in which lenders are operating,

but does vary from project to project. The final lending terms are determined by the risk, financial viability of the project, and how likely the lender is to being guaranteed to receive desired returns on cash. Commercial banks have a fixed idea of what they want and will not invest unless they are completely comfortable with the project and the potential returns. They are not development agencies.

The banks are, however, realistic. If the repayments are too high cost recovery may suffer and cash flows may not be realised. The cost depends on the ability of the project to service debt.

Many African countries such as Mozambique do not have financial institutions with sufficient reserves to support a project like the POM transaction, which is the reason for sourcing money in South Africa. South African banks usually require equity investors to hold at least 10 percent, this being due to a good track record for PPP transactions here in South Africa. With cross-border loans, this required equity holding may vary, but lenders normally limit the loan to a period of ten years, after which it can be renewed or further equity investors need to be sourced. Sometimes a hybrid structure between debt and equity is used, called 'quasi equity'. This is, however unusual.

The respondents agreed that debt providers look for the same security in projects and the same general terms, and stressed the importance of forming good relationships. Respondents also felt that the lenders brought the same mindset to

the negotiating table no matter where they were from. In each case they would not invest unless they were totally confident in the project and believed the projections were realistic and realisable, they would always push for their desired level of returns.

4.5.2 The Equity Component

Even though it would be possible to finance a project entirely through equity (through the balance sheet), the respondents agreed that this would be highly unlikely and that the equity component, like the debt, was an integral part of any PPP transaction. Several points were raised by the respondents as being common to most PPP transactions from an equity perspective:

- Like the debt, the equity investors will only invest if there is the required return.
- Rules and guidelines for equity distribution are worked out beforehand to lesson areas of contention.
- Choosing the right partners is very important, hence strict guidelines are laid out for this.
- Equity investors own their money, so returns are pure cash returns on investment.
- Equity investors are often aggressive in expectations.
- The greater the chance of the debt being repaid results in less equity being required.

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- A shift to equity will be caused by the project being unlikely to repay the debt in the agreed time frame.
 - Equity has to be bought or nationalised to change hands.
 - The equity holder has to take 'his knocks' as they come.
 - Equity players will push debt to ensure early returns.
 - The equity provider has leverage over the client - if they withdraw, the client has to start over.
 - The amount of equity required is driven by the requirements of the local financial community and by the requirements of the government PPP sponsor that the private sector consortium were committed to the project and would not default.
 - Some PPP transactions (specifically in South Africa) may require BEE representation in a higher-than-normal equity holding than dictated by financial risk structures.
 - In a 'back loaded' project, the private sector will put in a greater amount of equity to amortise the debt more quickly, and realise the return on its investment in the later stages of the project.
 - If the project is of strategic importance to the company, it may finance from equity; gearing will give a higher rate of return.
 - If government is an equity holder it is often more patient, with a longer view. By the time other investors get involved, the project is often generating cash and is providing returns; this lessens tension.
 - A worry for lending institutions is fear of expropriation and government-

provoked *force majeure*.

- Government lawyers become more practised and knowledgeable, the controversiality of these issues will lessen.
- The equity portion is controversial to the extent that the private party or the private loan finance lenders consider state assets that are ceded as equity to be overvalued.
- A large component of equity return comes from construction opportunities.
- The split of equity can sometimes become a difficult negotiation and a contentious issue depending on the situation when deciding how much each share of equity is worth.
- Equity investors often feel they are getting a bad deal.

4.5.3 Interrelationship between Debt and Equity

This section of the research was of particular interest to the researcher with regard to the POM transaction. The respondents had similar views on the interrelationships between the debt and equity components. Those respondents that were involved in the POM transaction felt that the factors mentioned below did apply to the POM transaction and would apply to other PPP transactions as well.

Even though a transaction can be concluded with 100 percent debt funding (the cost of which will be determined by the viability of the project) or 100 percent equity, these situations are very unlikely. For this reason the debt and equity components rely on one another. The breakdown of the debt-to-equity ratio

would be dependent on the type of transaction and the ability of that project to generate cash. With a secure revenue stream and guaranteed sales to a reputable buyer, debt levels are likely to be higher.

The respondents felt that the breakdown of debt/equity and how the equity would be carved up could be, but was not often a contentious issue in PPP transactions. The respondents also agreed that the debt providers brought a calming effect to the negotiations. The reasons for this were the professionalism and thoroughness of the debt providers, proper due diligence studies being conducted, good controls being put into place and the fact that debt providers would not involve themselves in a transaction unless they were happy that it would succeed. They had a no-nonsense approach. Lenders are a needed component in PPP transactions and have the international debt capital markets behind them; as well as the advantage of being able to use an industry base case as a benchmark in negotiations. To ensure that forecasts are reasonable, lenders can bring in external consultants to ensure predictions and forecasts are correct. If there is concessionary finance from a bilateral institution and a strong source of revenue, the debt aspect can help to alleviate any tension that might arise if the government-equity stake is not funded or unrealistically funded.

The equity investors often have a more aggressive view of a project, with the result that the sponsors blame some of the conditions in a contract on the lenders. This is often the result of equity investors feeling hard done by. There is

normally a negotiation about which party will get what share of equity at what cost. The debtors help to provide a benchmark for this. One respondent felt that the lack of understanding by Mozambican government officials about how to get finance for projects in Mozambique made this equity negotiation a difficult issue in the POM transaction. In South Africa, an SPV is used that is made up of sponsors who take up the equity component. From a government point of view this is dealt with as a single entity through an SPV which results in the tension between debt and equity being contained. This is due to the SPV being equity and debt bearing, as well as a single point of contact.

Respondents agreed that debt helps bring equity and equity helps to secure debt. With debt/equity negotiations there is a self-levelling effect brought about by the numbers and by the debt/equity providers achieving desired returns. All parties walk away with a structure from which they will all benefit. Equity investors know the bank will always seek desired returns so the project has to be profitable before they will invest. This results in stability in negotiations, with all parties usually benefiting after some negotiation.

4.6 Risk

The second question posed was 'What risk-mitigating strategies were applied to the Port of Maputo transaction, and what was their relation to the equity and debt components of the negotiations?'

In order to evaluate this completely the different risks and risk-mitigating strategies will be explored, followed by their relationship to debt and equity.

4.6.1 Principles of Risk Allocation

The principle of risk mitigation is to protect the different parties involved by identifying and accounting for different risks. Most respondents agreed that risk could never be mitigated completely. A few respondents suggested that the best way of managing risk was to develop a risk matrix which, as described by one respondent, “was developed which identified all the risks, quantified these risks, identified mitigating strategies, and allocated these risks to the party best able to manage them”. Risks that could not be allocated to other parties could be mitigated through the use of guarantees and/or through insurance.

4.6.2 Understanding the Components of Risk

Respondents agreed that there are many different components to risk, with each party involved likely to have a different view of these risks. Normal measures are put in place from a financial point of view for the protection of lenders and investors, according to some respondents, but before this could happen, risks would first have to have been identified during the feasibility stage of the project. Respondents mentioned a few of the more critical risks to be: commercial risk, market risk, political risks, sovereign risks, employee risks (taking over a current

workforce), and *force majeure*. Risk mitigation in projects is essential, but expensive. As an example, one respondent used the case of Mozambique where weather was a problem due to poor road and rail network infrastructure. The mitigation of such a weather risk was basically a cost (in some cases as high as 20 percent of the project value, which could compromise a project's financing).

4.6.3 Lenders' and Investors' Risk

Respondents agreed that there were several risk mitigation methods that lenders and investors used. One of the key areas to mitigate risk was to determining a financing plan and whether the project was feasible and could be realistically financed. It was up to the lenders to determine from the beginning whether the project was viable based on the financing plan and performance guarantees. Risks such as completion risks could be covered through additional financing from the providers, as could other risks, such as *force majeure*, be covered through insurance. Currency risk is an issue where cross-border loans are involved such as in the POM transaction. In such cases lenders have to hedge their exposure. One respondent felt that the key areas of risk were financial risk with the entity, operational risk, sector risk (in that industry) and legislation, while another respondent mentioned sovereign risk – labour issues, tax issues, and corruption that would stop the PPP running successfully, as being problems.

Respondents felt that market and commercial risks were never insurable and were passed through to the lenders by virtue of their major debt stake in the

project. This money could be recouped to an extent by lenders and investors through the sale of the asset in question should the need arise. As the operating side or revenue-generating side could not be insured either, risk mitigation here would have been up to lenders to have checked the robustness of the model initially.

Respondents felt that lenders used various methods such as ratio tests to minimise default on an ongoing basis, but that they would rely mainly on the financial model and on realistic forecasts from contracted specialists to provide conservative estimates on the volume expected, as in the case of POM shipping coming into the port. Aside from this, respondents suggested that possible lenders could secure government guarantees and require concessionaires to be insured. If the ratios could not be met in the ongoing tests, lenders could implement remedial actions such as cutting costs, bringing in new operators or use reserve accounts in order to protect their investment.

4.6.4 Concessionaire Risk

The concession company in PPP transactions would normally be just a shell, as they do not have any assets. Financing therefore in most PPPs is done as limited recourse projects, with the main aim of the lenders and the equity holders being that as few risks as possible reside in the concession company.

Some risks still remain, with respondents agreeing that in the case of a transaction such as the POM the most unpredictable risk would be commercial risks. As mentioned in Section 4.6.3, lenders usually appoint their own specialists to conservatively estimate factors such as trade volumes for use in the financial model, even though these may not always be accurate and remain a major risk. Since equity was subordinated to debt, lower volumes would then lead to an impact on returns, as failure to reach forecasted volumes and lower revenues would have an immediate impact on cashflows and, consequently returns.

Force majeure was also considered to be a large risk for concessionaires. In the words of one respondent: “all that was needed in the case of the POM was a week of rain and it would be impossible to move goods in or out of the port due to the poor conditions of the roads”.

Risks would be greatest during the first few years of a concession because of predictions on volumes, as well as debt levels being the highest. As debt was serviced and confidence was gained in the success of a PPP, the risk would lessen. The first five years were accepted as being the most risky for all parties involved.

4.6.5 Risk Mitigation

The best way of managing risk in PPPs for financiers is to create a risk matrix which identifies all risks, quantifies these risks, identifies mitigating strategies and

allocates the risk to the party best able to manage it. This risk matrix is then referred to at each stage of the PPP lifecycle. Further to this, ratio tests are conducted every six months which give an indication of the project's ability to service the debt. One respondent felt that the best way of mitigating risk was through proper due diligence studies and comprehensive financial planning. "There was no point in developing a contract without a sophisticated plan".

Another respondent felt that using standard project-finance limited-recourse techniques - such as ring-fencing cashflows, taking security over shares and assets, providing for strict control over cashflows through the use of escrow accounts, as well as more usual methods such as taking security from the sponsors throughout the construction process and backing off the risks with the parties best able to absorb them - were also effective in risk mitigation.

The risk position needs to be maintained to ensure that the value for money for financiers and for government is not eroded.

4.7 Conflict and other Mitigating Factors in PPPs

The third research question was "What were the mitigating factors in the POM transaction, and what factors can be attributed to the success of this and other PPP transactions as a whole?"

Several factors were raised by the respondents in response to this question. These factors and their relevance have been explored in the following section.

4.7.1 Sovereignty

The aim of a PPP transaction, as in the case of the POM transaction, is to leverage private sector expertise to enhance public sector efficiency, but if the public sector is efficient there would be no perceived value for engaging the private sector and no need for a PPP transaction at all.

Sovereignty is an issue that became more relevant to the researcher as the research progressed and the importance of this matter was reinforced by the some of the respondents who felt this to be very important, while other respondents had mixed views on the importance of sovereignty. One respondent felt that sovereignty was not just the issue of the 'crown jewels', but evaluated the respective country and how difficult it would be to operate in. Factors such as political risks, corruption, taxes, how easy it would be to open a company, whether foreigners were welcome, the predisposition to change, the ease of moving around in the country and the availability of raw materials were all issues of sovereignty.

Some respondents felt that sovereignty was not really an issue from a government point of view, as government were aiming toward cost effectiveness

and efficiency. If the government could have run the parastatal such as the POM better they would have, rather than engage the public sector in the form of a concession. The view here was that sovereignty was not an issue, because the PPP was being a benefit to government and to local people. Of consideration here was the fact that the parastatal had not been taken over, but rather that the right of use had shifted. In PPPs often the government had long since recognised that the human and financial resources available to the state owned enterprise had not been sufficient to ensure a proper, reliable, and cost-effective operation of the country's infrastructure. Its appointment of a concession itself was an acknowledgement that the parastatal teams could not run the parastatal as effectively as the private operator could. Often however, this comparison is unfair because of factors such as financing, strategy, focus and expertise. People are more concerned with power than with the issue of sovereignty.

Other respondents felt differently however and suggested that sovereignty was a real issue. This could have been caused by issues such as the type of transaction and perceptions of who was going to benefit. One respondent felt that sovereignty would be an issue depending on the country's history, if a socialist communist setup then there may be a perception of giving away the crown jewels. This view was reiterated by another respondent who felt that, especially where a country had a socialist communist history or was very poor, was sovereignty likely to be an issue. The reason this would be an issue was the perception that someone else would be making money from something that

belonged to the state and should be for the benefit of all. In the case of the POM CFM viewed the POM as the crown jewels and were reluctant to relinquish control. They did lose control but not ownership. Several respondents felt that the view of sovereignty seemed to depend on the involvement of the local people and the benefits that they realised. If they were included, and received benefits, this seemed to be less of an issue, while if there was no perceived benefit, whether direct or indirect, then sovereignty was likely to be more of an issue.

With any PPP transaction, local people have to be taken into consideration and the government has to ensure that the reasons for the PPP are for the better of the local people and for the country with full buy in from the ministers involved. If these issues are properly addressed, with a firm show of support from government level, respondents agreed that sovereignty was likely to be less of an issue. Mutual benefit for all parties involved must be seen and realised.

4.7.2 Conflict

Conflict is likely wherever there is a resistance to change. This would not apply to greenfield transactions, however in a PPP transaction concessionaires would cause tension by virtue of their involvement and the role they were perceived to play - that being one of restructuring and cutting the slack out of a parastatal. In the case of a PPP, respondents agreed that the main reason for privatisation was because a parastatal was not being run properly. The involvement of a concessionaire to run a parastatal in order to realise profits and improve

profitability often resulted in a re-adjustment in the way the business was run and the functions performed by those within it.

Respondents agreed that there was not always conflict in these transactions, but that when conflict did occur it could have been caused by a number of factors. There was seen to be no debt vs. equity conflict, as the guidelines for the distribution of equity had been established beforehand. Rather the conflict stemmed from other factors. Those factors included lack of funding, corruption, bribery, monopoly, too many employees and a lack of interest from the government. The main area of contention seemed to surround labour and the possible dismissal of labour, and how the project would operate and who would be responsible for which functions. While most respondents agreed with this, they noted that this was unlikely to be a problem in PPPs with a solid financial plan, a structure of responsibility and a roadmap in place. Some respondents noted that in some situations the criticism of management was not a factor as the decision makers involved in the PPP process were not the day-to-day management. The individuals concerned were happy to become employees of the PPP entity, which usually resulted in working in a much less regulated environment and better pay packages.

One respondent noted that in the POM transaction part of the issue was sovereignty as CFM resisted change as they saw the POM as the 'crown jewels'. This led to a degree of conflict. The operation was seen as being inefficient and

management was questioned. Some respondents agreed that this situation was likely wherever an outside party was going to come in and restructure staff and operations within an entity in order to make them more efficient. In the case of the POM transaction the argument was that the port was so badly run, only improvement could result.

Another area of conflict noted within municipal PPPs is the opposition to unions. The reason for this is that the employees needed to belong to private unions, which caused government unions to receive less revenue.

Respondents had different suggestions as to how to lesson conflict in a PPP transaction. They felt that in order to lesson conflict, such as staff, investors, etc., should have been taken into account. Education was also an important issue. People needed to be educated as to the benefits of involving the private sector, such as value for money for government, better services, cheaper services, better delivery, clear objectives and strategies and other direct benefits to the people involved. The plan should be outlined from the outset. Sometimes the original project would be, to a large extent, government funded on both equity and a debt level but was always intended to be privatised. It was known up front that privatisation pains were in the offing which also lessens conflict.

4.7.3 Takeover Dynamics

When posed with the question of whether PPPs could be seen as a takeover

most respondents disagreed, but most agreed that they could be seen as turnarounds with the dynamics that go with such transactions. The reason that they could not be seen as takeovers was that the government never cedes responsibility for service delivery. One of the respondents felt that part of the problem with labelling a PPP as a turnaround was that this would be acknowledging that there was a problem, another respondent felt that inviting participation of the private sector and therefore a PPP transaction was already acknowledging that there was a problem that could be better handled by private participation. Turnaround dynamics would vary according to the concession and the strategic importance of the public infrastructure. As noted by another respondent most failed government parastatals have been pushed into the private sector and one reason for turnaround dynamics was the issue of power retention - wanting to keep the power, and in some cases, sources of income as well.

4.7.4 Government Support

The support of government was felt by respondents to be a very important component of PPP transactions. Governmental support is essential as it is government giving up parastatals to be privatised. The problem is generating continued interest through the right tiers of government in order to complete the project. One respondent commented that lack of education within government about the benefit of PPP transactions led to a feeling of disregard which hampered the chance of success and slowed the progress significantly as a

result of political power plays.

4.7.5 Relationships

Co-operation and engaging the other parties was also viewed by respondents as being relevant in PPP transactions. Co-operation through communication and relationship building was agreed on as yielding better success in ensuring results and concluding PPP transactions timeously.

4.7.6 Other Factors

A few common themes emerged from the respondents when other mitigating factors in PPPs were discussed, but the most prevalent was the issue of labour.

- Labour - The issue of labour in PPPs is a complicated one because of the situation in parastatals, where often they have been over-staffed. Part of making these parastatals profitable is cutting away expenses including excess labour. Governments often stipulate that incoming concessionaires may not retrench labour but should let numbers decrease through natural attrition. In these cases the additional cost of this was often negotiated against a concession fee. Labour transfer from public to private sector complicates this. For labour the benefits of this is that they often receive training and capacity building along with new opportunities. Part of the strategy was not always to fire people but to get them to increase

productivity or utilise those people better. In cases where there is no provision to keep labour the government often secure money from aid agencies in order to pay retrenched employees settlement packages. This was the case in the POM transaction where many employees were old and were happy to take a settlement package. One requirement of PPP transactions in South Africa is that the concessionaire has to take on existing staff, offering similar rates and benefits.

- Difficulty of a PPP Transaction - Several respondents also mentioned the difficulty of taking on a PPP transaction because of the power plays that go with it and the change that often occurs in the way the company operates encouraging the mindset that PPPs are the best way to deliver and manage services is also difficult in government. It is also difficult to encourage government to accept that the PPP would deliver what it had failed to achieve. In the case of the POM, this involved transforming the harbour into a modern, competitive, efficient, market-oriented and financially viable enterprise. This would not be such an issue where the state did not have the capital or inclination to modernise or expand its own capacity and therefore would welcome the private sector participation.
- Timescale - The timescale in PPP projects can also be a problem as it can often take two to five years to secure finance and this can put huge strain on

relations both from the point of view of government delivering on promises, as well as project feasibility.

- Social responsibilities – Communities have to be shown the direct benefits, such as employment, better services, infrastructure, education, clinics and, where applicable, addressing the problem of HIV.

One respondent concluded by saying that PPPs would not always be top companies providing excellent services. The point of PPPs was to provide an improved service with a benefit to all. People needed to look at all the positives that came with privatisation. If a PPP managed to bring better service and increased efficiency and benefit the country as a whole then it could be described as successful.

4.8 Success of PPP Transactions

4.8.1 Success Factors in PPP Transactions

Respondents had different views on what they perceived to be factors that would aid the success of PPP transactions, depending on the sector they represented. A few common themes did emerge. The main ones have been discussed below.

One important factor to emerge was that there should be a mutual point of benefit for all parties involved, government as well as financiers and

concessionaires, so there is the drive to keep the project going for all to realise identified upside. Along with this the point was made that all parties should be reasonable and realistic with what they wanted out of the deal.

PPP projects need a champion and have to have the support of the government. Local people should also be included and through proper consultation and involvement, they could be shown that this is the best way to go. Government must have a clear policy and strong decisive ministers to implement and control the policy with regard to PPPs. Along with this, government should encourage central, provincial and local governments to centralise their initiation of PPPs.

There should also be regulation and steps to follow. The process needs to have continual drivers, clear lines of responsibility and a road map going forward, with realistic timeframes and forecasts. The process needs openness and fairness, with respective roles and intentions made clear, and with the aims of the different parties recognised. Another essential element was considered to be comprehensive financial planning and a thorough due diligence.

5. Interpretation of Results

5.1 Introduction

This chapter compares the research results presented in the previous chapter with the literature examined and explored in the literature review. The interpretation of the results is divided into three parts, that correspond to the research questions, in an attempt to answer these questions. The chapter concludes with a model of the PPP process and the presentation of possible strategies for increasing the success of such transactions.

5.2 The Interrelationship between Debt and Equity

The first research question was developed to investigate the relationship between the debt and equity components and possible tensions caused by the equity negotiations in PPP transactions. The main issues here were found to be the debt component, the equity component and the dependency between debt and equity.

5.2.1 Debt Component

The research confirms Benoit's (1996) observation that a critical element in a project-finance operation is the provision of loans to help finance the project. Respondents felt that the debt component of PPP transactions is an essential part of

any PPP transaction, partly because it is very rare to have a transaction that is financed by 100 percent equity. The debt financiers are, therefore, an essential component in any transaction. Furthermore, the debt providers bring a level of professionalism and security that many of the respondents felt helped to bring stability to PPP transactions and help to ensure their success.

5.2.1.1 *Necessity of Debt*

In the literature review the researcher proposed that debt financing was the most common form of financing of large infrastructure-type projects in Africa. Respondents agreed with this view and felt that the debt providers were a necessary part of PPP transactions and that national assets could not be built or transformed without outside assistance in the form of financing. This view reflects that of Berman (2004:24) when he writes, “International debt funding has been the traditional source of financing for projects in Africa.” Aside from funding, debt providers also help to bring a certain amount of stability to transactions. Lenders tend to have a more conservative view than equity investors and they have clear-cut conditions under which they are prepared to invest. Because of the demand and need for debt financing, lenders can afford to choose whom they invest their money with, while looking for maximum returns with minimum risk. For this reason debt financiers were very thorough and have a clear set of objectives in mind before they would involve themselves in any project. The security that this brings to any transaction was thought to be paramount by the respondents.

5.2.1.2 Debt Providers' Strategy

Benoit (1996) suggests that the main attribute of debt is a specified return on the investment in line with traditional lending returns, but with commensurate protection against losses provided, in part, through the project's assets.

This is confirmed by the research where, according to respondents, the rate at which debt providers would lend money or even become involved in a project is dependent on a few different factors such as the results of the due diligence report, the value assessment and the economic evaluation to ensure that the project was viable and sustainable. The final lending terms would be determined by the risk and financial viability of the project, and how likely the lender would be to get desired returns on cash. Commercial banks have a fixed idea of what they want and will not invest unless they are completely comfortable with the project and the potential returns. The banks are, however, realistic - if the repayments are too high, cost recovery may suffer and cash flows may not be realised. The ability of the project to service debt determines the cost.

What also emerged from the research was that the respondents felt that the lenders would not invest unless they were totally confident in the project and believed the projections were realistic and realisable.

5.2.2 Equity Component

From the research we determined that it would be possible to finance a project entirely through equity (through the balance sheet) but the respondents agreed that this would be highly unlikely and that the equity component, like the debt, was an integral part of any PPP transaction.

Benoit (1996) notes that equity providers share in the profits of the project, and any appreciation in the value of the enterprise, equity providers are also generally the first to be adversely affected when the project encounters financial difficulties.

As the researcher mentioned in Section 4.5.2, equity providers do play an important role in PPP transactions because debt providers usually require a certain level of equity before they are prepared to invest. Both equity investors and debt providers seek desired levels of returns before they are prepared to invest. A few respondents mentioned that equity investing was attractive due to the high returns. Along with this, equity investors have to take their knocks as they come which confirms Benoit's (1996) theory which suggests that the equity investors are the first to suffer should forecasts not be met. Respondents also mentioned that the greater the chance of debt being repaid, the less the amount of equity required, as the lenders were prepared to take a larger share. To add to this one respondent mentioned that a shift to equity would be caused by the project being unlikely to repay debt in the agreed time frame. Equity investors are likely to see a higher level of return as the investment is far more risky but they are last to be paid out.

5.2.2.1 Equity Tensions

In Section 2.5.8 some themes were raised by the researcher with regard to possible causes of equity tension between different negotiating parties. These were identified as:

- sovereignty – the notion of loss of sovereignty by giving away equity or giving away part of a national asset;
- ownership dynamics – percentages and perceptions of ownership i.e. 49 percent vs. 51 percent. Whoever owns the bigger stake is the controller;
- institutional authority – what is good for the state, what is perceived will be the greatest benefit;
- financial reality – what to do realistically by looking at the degradation of the facility and the indebtedness of the country; and
- emotion – bankers tend to have a simplifying impact on the transaction compared to parastatals “who muddy the water”. This could be the result of emotions and the interplay of different personalities.

Through the research the issue of sovereignty was discussed by several respondents and felt to be an influence in negotiations. Of interest was that some respondents felt this was more likely to be an issue where countries had a socialist communist history and were generally very poor, while one respondent felt that sovereignty would not be such an issue in such a country as government was trying to increase efficiency and reduce costs by including the private sector.

Ownership dynamics were not mentioned as being a factor by any of the respondents and can therefore be considered to be disproved for the purposes of this study.

Respondents did mention that PPP should be shown to have a positive effect on the country and on local people and that there should be a net benefit to all, not just the opportunity for a few parties to make money.

If governments had the funds and/or ability to implement the turnaround of a parastatal themselves, they would have had no need to include the private sector. Respondents agreed that many African countries do not have the funds to implement or fund refurbishment of large infrastructure projects, hence the need for outside funding and the engagement of the private sector. In the case of the POM, the implementation of a PPP suggested that the Mozambican government had a realistic view about finances and realised that they did not have the financial means to implement the project without additional external finance and expertise.

The respondents felt that the debt providers did bring a simplifying effect to the negotiations. The reasons for this were the professionalism and thoroughness of the debt providers, proper due diligence studies being conducted, good controls being put into place, the fact that the debt providers would not involve themselves in a transaction unless they were convinced that it would succeed, and they had a no-nonsense approach. This professionalism did bring a calming effect to transactions. There was no evidence, however, that the parastatals 'muddied the water'.

One respondent commented that the equity portion of the negotiations was controversial to the extent that the private party or the private-loan-finance lenders consider the state assets ceded as equity to be overvalued. The researcher feels that this could be an important contributor to tensions that was not explored in the initial literature review.

5.2.3 Tensions and the Dependency between Debt and Equity

In Section 2.5.6 there was a discussion of tension in the transaction, and between debt and equity. What emerged from the research was that there was little debt/equity tension. The tensions that arose came from the equity side of the negotiations as discussed in Section 2.5.8. The debt actually helped to bring a calming effect to the transaction. Respondents also agreed that the debt and equity portions of the transaction were linked to one another, and one side was unlikely to be secured without the other.

Even though a transaction can be concluded with 100 percent debt funding or 100 percent equity, respondents said these situations were very unlikely – the debt and equity components rely on one another. In the research it emerged that the cost of finance for a project was dependent on the type of transaction, who was involved, and the ability of the project to generate cash. These elements are what would determine the breakdown of the debt/equity ratio. As a result this would seldom be an area of contention as the figures would be self levelling. As mentioned in the

previous paragraph, contention in equity negotiations arise when the lenders consider ceded assets to be overvalued. One respondent said that, as rule he would have said that the quantity of debt in a project would determine the economics of the deal. Once the maximum amount of debt in a project had been ascertained (i.e. how much the deal could be geared), the makeup of the equity could then be worked out. The maximum amount of debt in a deal is a function of the debt-carrying capacity of the project (as reflected in a debt service cover ratio). Lenders needed for the sponsors to put in actual capital (for example, the debt carrying capacity of a project may have resulted in a 90:10 debt equity ratio, but lenders would want to see sponsors commit capital to the extent that a 70:30 ratio would have been achieved).

Respondents felt that equity investors often have a more aggressive view of a project, which does not always concur with the debt financiers' forecasts. The result is often that sponsors blame some of the conditions in a contract on the lenders, which leave the equity investors feeling hard done by. Despite this, the respondents felt that the equity investors saw the lenders as a necessary and welcome addition to the transaction.

Through studying the research we can conclude that even though the research suggests that there are some levels of tension that can arise in various circumstances in the debt/equity negotiations, they are not usually an issue. Further to this, we can also conclude that the debt and equity components are dependent on one another, as debt helps bring equity and equity helps to secure debt. Both

aspects are very important to a PPP transaction. With debt/equity negotiations there is a self-levelling effect caused by the numbers and achieving desired returns. All parties want to walk away with a structure from which they will all benefit. Equity investors know that lenders will always seek desired returns with minimum risk and therefore the project has to be profitable before they will invest. This results in stability in negotiations with all parties usually benefiting after some negotiation.

5.3 Influence of Risk

The second research question was formulated to investigate the risks present in PPP transactions, and how to mitigate them. The relationship of risk to the debt and equity components was also investigated.

5.3.1 Understanding Risk

The principle of risk mitigation is to protect the different parties involved by identifying and accounting for different risks that may have been a problem. Most respondents agreed that risk can never be mitigated completely – that some element of it always remains. This agrees with the comment made by Berman (2004) that any potential financiers need to look at all aspects of risk before committing any funds, as part of the difficulty of attracting funds includes the risks.

When allocating risks a few respondents suggested that the best way of managing risk was to develop a risk matrix which would identify all the risks, quantify these risks, identify mitigating strategies, and allocate these risks to the party best able to manage it. Risks that could not be allocated to other parties could be mitigated through the use of guarantees and/or through insurance. This is reiterated by Benoit (1996:15). “In this manner insurance serves to mitigate through the medium of the insurer the financial exposure that would otherwise be faced entirely by the project participants”.

5.3.2 Different Components of Risk

Respondents agreed that there are many different components to risk. Commercial risks, market risks, political risks, sovereign risks, employee risks, and *force majeure* were mentioned as being some of the more crucial risks.

Fisher & Babber (1996) concurred with this by identifying commercial risks, market risks, political risks and *force majeure* as being risks that are faced by financiers and developers at the various stages of typical project concessions. What was highlighted by the research was that respondents felt that sovereign risk and employee risks also play a role.

Berman (1996) describes commercial risks as being construction and completion risks while the IMF (2001) listed these risks as being operational. Market risk covers

changes in the interest rates, exchange rates, commodity prices or the cost of governments' debt services, according to Berman (2004). A few of the political risks that Benoit (1996) suggests are concerns with government expropriation, withholding licences, legislations changes (that would affect the project), as well as fears of civil war. *Force majeure* was described by Kerf (1999) as risks that are beyond the control of any of the parties involved, and refers to acts of God. Employee risks were not explored in the literature review and emerged in the research as being one of the most important issues with PPP transactions, the taking over of an existing workforce. Sometimes, government legislation prevents retrenchment of employees, with the result that an incoming concessionaire would have to keep these additional staff (assuming that the workforce was overweight) and wait for numbers to reduce through natural attrition. This situation would represent an additional cost and risk to the concessionaire that had to be factored in. Sovereign risk has not been explored in the literature either, but was also considered to be a factor. As mentioned in Section 4.7.1 one respondent saw sovereign risk as being factors such as political risks, corruption, changing taxes, how easy it is to open a company, whether foreigners are welcome, predisposition to change, the ease of moving around in the country and availability of raw materials as issues connected with this risk.

5.3.3 Debt Providers and Investors Risk

Respondents agreed that there are several risk-mitigation methods that lenders and investors use. One of the key risk areas of identifying risk was determining a

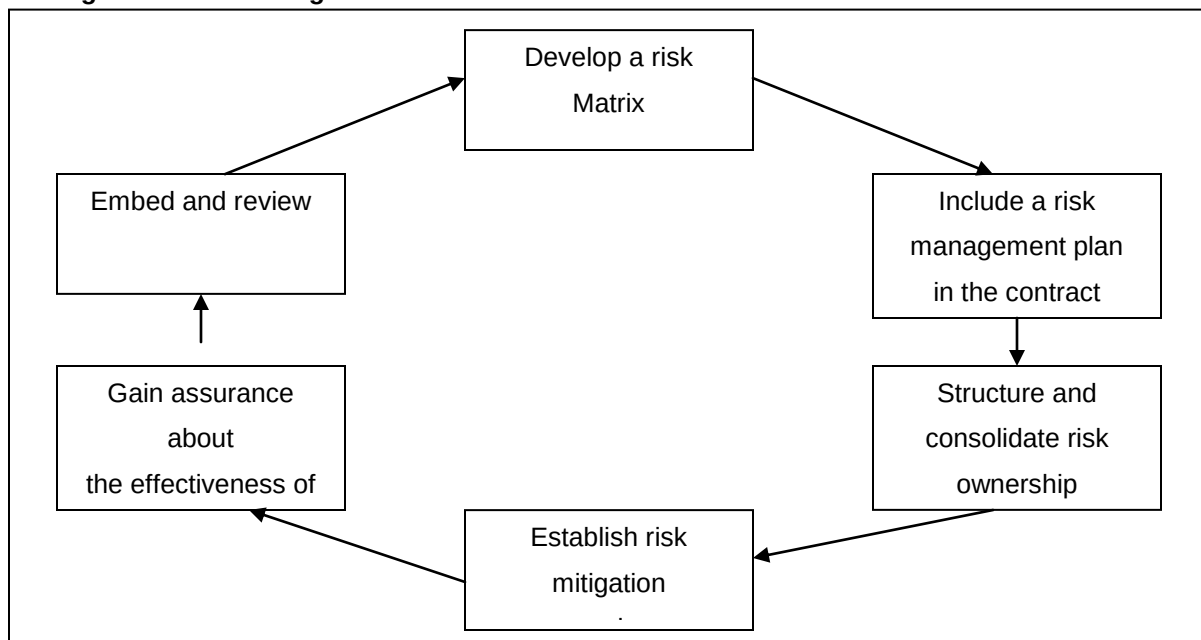
financing plan and whether the project was feasible and could be realistically financed. This observation agrees with one made by Estache & Strong (2000) who suggest that to ascertain whether the project is suitable for financing or not is determined partly by the political and economic situation facing the country, as well as the characteristics of the project. Once it has been ascertained that the project is suitable for financing it is up to the lenders to determine whether the project is viable for them, based on the financing plan and performance guarantees.

Estache & Strong (2000) mention that banks are expected to finance the project on a non-recourse or a limited-recourse basis, emphasising project revenues as the primary source of repayment of interest and principal. In return for agreeing to finance the project on such a basis, banks are likely to require the ability to exercise a considerable degree of control over the SPV and its activities, and have 'step-in rights' should any one of a large number of triggering default events occur. Respondents agree with Estache and Strong (2000) by mentioning that financiers could take control of an operation when certain trigger mechanisms are set off and would follow a number of predetermined paths in order to put corrective action into place should an operator be failing to meet forecasts. This ability to take control would be one way for financiers to mitigate their risk. Other risks such as completion risks can be covered through additional financing from providers, and insurance risks such as *force majeure* can be covered by insurance.

In the literature review under Section 2.4.3 market risks were discussed. As

mentioned in Section 4.6.3, respondents agreed that these were an issue but that currency risk is only applicable only where there are two different currencies being utilised as was usually the case with cross-border loans such as the POM transaction. In such cases, lenders would have to hedge their exposure. One respondent mentioned that market and commercial risks were never really insurable.

Figure 7: Risk Management Framework



Source: South African Treasury - PPP Manual (2004)

The research suggests that respondents felt that lenders used various methods such as ratio tests to minimise default on an ongoing basis, but that they relied mainly on the financial model and on realistic forecasts from contracted specialists to provide conservative estimates of the volume of traffic expected - in the case of POM,

estimates of shipping coming into the port. Aside from this, respondents suggested that where possible, lenders would secure government guarantees and require concessionaires to be insured. If the ratios could not be met in the ongoing tests, lenders could implement remedial actions such as cutting costs, bringing in new operators, or use reserve accounts to protect their investment.

5.3.4 Concessionaires' Risk

Respondents mentioned that the project sponsors would normally form a Special Project Vehicle (SPV) to act as the concessionaire. This would form a shell as it did not have any assets. Financing therefore in most PPPs is done as limited-recourse projects, with the main aim of the lenders and the equity holders being that as few risks as possible should reside the concession company. Estache & Strong (2000) mention that an SPV is only a legal form and still needs to ensure that obligations are performed and objectives are met under the concession agreement, by subcontracting those obligations to a third party.

Some risks would still remain, however, with respondents agreeing that in the case of a transaction such as the POM, the most unpredictable risk would be commercial risks. As mentioned in Section 4.6.3, lenders usually appointed their own specialists to conservatively estimate factors such as traffic volumes for use in the financial model, even though these may not always be accurate and remain a major risk. Since equity was subordinated to debt, lower volumes would then lead to an impact

on returns, as failure to reach forecasted volumes and lower revenues would have an immediate impact on cashflows and therefore on returns.

Risks are greatest during the first few years of a concession as predictions on volumes are uncertain and debt levels are the highest. As debt is serviced and confidence is gained in the success of a PPP, the risk would lessen. The first five years are accepted as being the most risky for all parties involved.

5.3.5 Risk Mitigation

In the research results, some respondents commented that the best way of managing risk in PPPs for financiers was to create a risk matrix that identified all risks, quantified these risks, identified mitigating strategies, and allocated the risk to the party best able to manage it. This risk matrix was then referred to at each stage of the PPP lifecycle. Ratio tests were conducted every six months along with this, which would give an indication of the project's ability to service the debt. One respondent felt that the best way of mitigating risk was through proper due diligence studies and comprehensive financial planning,

In Section 2.4.6 of the literature review, the researcher suggested several methods that the participants could employ to safeguard against potential risks or spread the risk to more than one party. These safeguards could come in the form of guarantees, insurance, completion incentives, reserve accounts or escrow accounts,

all of which are mechanisms designed to limit risk. This sentiment was partly echoed by one respondent in Section 4.6.5 who felt that using standard project finance limited-recourse techniques such as, ring-fencing cashflows, taking security over shares and assets, strict control over cashflows through the use of escrow accounts and most commonly taking guarantees from the sponsors throughout the construction process. Of these methods Benoit (1996) agrees that guarantees are the most common method of reallocating risk responsibility.

5.3.6 Debt / Equity and Risk Mitigation

Section 2.5.1.2 of the literature review argued that the debt providers have several roles to play in the form of debt provision and the structuring of various loans. Even though these loans are normally raised by the concession company, the lenders continue to carry a large portion of the risk. These transactions cannot take place without the debt providers, and it was up to them to structure a deal that would keep all parties interested while still retaining a margin for themselves, as well as a structure with an acceptable level of risk. Respondents reiterated this in Section 4.5.3 where they suggested that debt helps to bring equity and equity helps to secure debt. Both aspects are very important to a PPP transaction. With debt/equity negotiations there is a self-levelling effect caused by the numbers and achieving desired returns. All parties walk away with a structure from which they will all benefit.

From the investigations in Chapter Five we identified the same risks in PPP transactions as those identified by Fisher & Babbar (1996). In addition to this the

respondents identified labour and sovereign risks as being critical in PPP transactions. From the research we can conclude that debt and equity providers strive to maximise profits while minimising risks. There is therefore a relationship between risk and the debt and equity components of a transaction.

5.4 Minimising Mitigating Factors in PPPs

The third research question was posed to investigate the mitigating factors in PPP transactions and to look at the factors that could be attributed to helping PPPs become a success. The aim of this questioning was to formulate an understanding of common factors that could be addressed in order to aid the process of completing a successful PPP transaction, as well as to minimise the effect of perceived negative factors in such transactions.

5.4.1 Identified Mitigating Factors in PPPs

Several factors were identified in Section 4.7 by respondents as being key with regard to mitigating factors in PPPs. Respondents that were involved in the POM privatisation felt that all these issues could have had a bearing and become mitigating factors had they not been correctly addressed. These have been discussed below.

5.4.1.1 Risk Mitigation

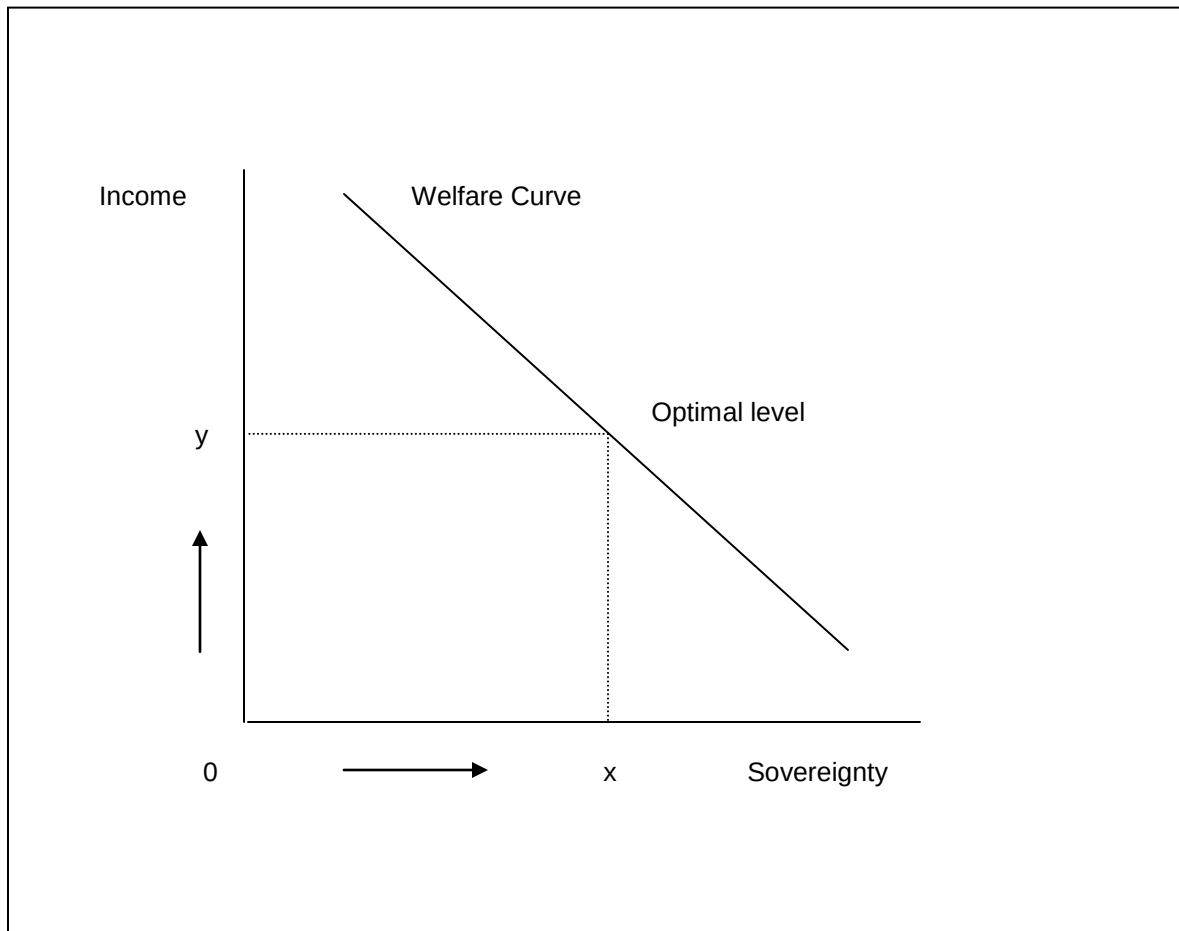
The concepts of risk and risk mitigation have been covered in Section 2.4 of the literature review and Section 4.6 of the research results based on findings by the researcher. The conclusion of Section 5.3.5 notes the importance of risk mitigation in any PPP transaction. As discussed in Section 4.6.1 parties seek to minimise risk and maximise returns. The principle of risk mitigation is to protect the different parties involved by identifying and accounting for different risks that may be a problem. As discussed in Section 2.5.1, there are several methods that participants can employ to safeguard against potential risks or spread the risk to more than one party.

Without these safeguards in place, should the concessionaire default on a payment, or should there be an act of God (such as a flood), which would lead to forecasts not being met, there is some cover for the debt providers to enable them to recover their position in the transaction. In order for a PPP to realistically succeed, respondents felt that covering, identifying and accounting for risks is essential. As mentioned in Section 4.6.1 by a respondent, “the risk matrix was developed which identified all the risks, quantified these risks, identified mitigating strategies, and allocated these risks to the party best able to manage it.” Risks that cannot be allocated to other parties can be mitigated through the use of guarantees and/or through insurance.

5.4.1.2 Sovereignty

The issue of sovereignty was mentioned briefly in Section 2.5.8 of the literature review, however was not covered in any detail. The importance of this issue has emerged through the research.

One respondent felt that sovereignty was not just the issue of giving away the 'crown jewels', but an evaluation of the respective country and how difficult it would be to operate in. It emerged in the research that one respondent felt that sovereignty was attributable to factors such as political risks, corruption, taxes, how easy it is to open a company, whether foreigners are welcome, the predisposition to change, the ease of moving around in the country and the availability of raw materials, were all issues of sovereignty. Milanovic (1996) agrees with this to an extent when he defines sovereignty as supreme authority within a territory. Milanovic (1996) goes on to write that full sovereignty is neither reachable for most countries nor desirable. Greater sovereignty was often traded for reduced income. There is a trade-off between sovereignty and income. Countries do not choose to maximise sovereignty but rather find an optimal level. They choose a combination of income and sovereignty that allows them to maximise welfare.

Figure 8: Trade off between Income and Sovereignty

From the observations made by Milanovic (1996), the researcher developed the graph above. From the above graph (Figure 8), we can conclude that there is a desired level of sovereignty for maximising welfare and income. Some respondents felt that sovereignty is not really an issue from a government point of view as it is aiming toward cost effectiveness and efficiency. The view here was that sovereignty

is not an issue because the PPP is a benefit to government and to local people. Of consideration here is the fact that the parastatal has not been taken over, but rather that the right of use has shifted.

Respondents felt that in privatisations government had long since recognised that the human and financial resources available to the state-owned enterprise had not been sufficient to ensure a proper, reliable, and cost-effective operation of the country's infrastructure. Its appointment of a concession is an acknowledgement that the parastatal teams cannot run the parastatal as effectively as the private operator could. But often people are more concerned with power than the issue of sovereignty. Other respondents felt differently, however, and suggested that sovereignty could have been caused by issues such as the type of transaction and perceptions of who was going to benefit. One respondent felt that, depending on where the country was coming from, sovereignty could be an issue. If a country had a socialist communist history or was very poor, this was more likely. Several respondents felt that the view of sovereignty seemed to depend on the involvement of the local people and the benefits that they realised. If they were included with clear benefit, this seemed to be less of an issue, while if there was no perceived benefit whether direct or indirect, then sovereignty was likely to be more of an issue to a certain level, at which point they would reach the optimum point.

If we look at these issues with regard to the chart developed by the researcher, we can see how sovereignty can become a problem. If there is a concern about power

and therefore a move toward greater sovereignty, there will be less income and a move down the welfare curve away from the optimum. When looking at the type of transaction and perceived benefits again this could result in a power struggle. If benefits were deemed to be great, one would move up the welfare curve and relinquish control, but if benefits were seen to be going to another party, government could move toward greater sovereignty and down the welfare curve. The last issue was the suggestion made by a respondent that a socialist/communist type of government or countries with a history thereof would likely find sovereignty more of an issue. Again we can see that this would be true, as we know that in these type of states most parastatals are held very close to governments' heart. This would leave them down the welfare curve with little income.

We can conclude from following the graph and the position on the welfare line through these few examples that sovereignty could be a real issue in some PPP transactions.

5.4.1.3 Conflict

According to Kersten (2003), conflict is a daily occurrence in most organisations, the outcome of which depends on the negotiation skills of the individuals or parties concerned. Negotiation skills are critical for both parties for an amicable and reasonable agreement to be reached, especially as organisations are becoming less hierarchical, less concerned with positional authority, and have less clear boundaries

of responsibility and authority.

According to the research, in a PPP transaction concessionaires would cause tension by virtue of their involvement and the role they were perceived to play - that being one of restructuring and cutting the slack out of a parastatal. In the case of a PPP, respondents agreed that the main reason for privatisation was because a parastatal was not being run properly. The involvement of a concessionaire to run a parastatal in order to realise profits and improve profitability often resulted in a re-adjustment in the way the business was run and the lines of responsibility within it. This concurred with Kersten (2003) who suggested that one cause of conflict was differences in perceptions, work styles and attitudes, communication problems, and individual differences.

Where there is conflict in a PPP, the transaction will be less likely to succeed. The concessionaire will have the greatest chance of succeeding in turning a loss-making, low-productivity parastatal into an efficient profit-making one only if they have co-operation from the workforce and assistance from the government. This is reiterated by Estache & Strong (2000) in Section 2.5.2.1 of the literature review where they suggest that in order to assist in the success of a PPP transaction, the government may require clarifying laws relating to the recognition and enforcement of contractual obligations and security rights, or the laws relating to nationalisation, expropriation and arbitration.

As Estache & Strong (2000) suggest, project finance does involve a large number of

participants. The interests of all parties and the roles they play need to be catered for and agreed upon. The government would typically be the one that perceives the need for infrastructure projects, while the public sector is typically interested in obtaining needed infrastructure or services at reasonable cost and with attention to social aspects. Respondents agreed with this, as they felt that in order to lesson conflict all parties such as staff, investors, lenders, shareholders and users must have been taken into account. Education is also an important issue. People need to be educated in the benefits of involving the private sector, such as value for money for government, better services, cheaper services, better delivery, clear objectives and strategies and other direct benefits for the people involved.

5.4.1.4 *Lack of Government Support*

In the literature review the researcher suggested that many governments recognised that due to underdeveloped local debt markets and without their support many financiers would not consider doing business in some countries due to the risks and difficulties involved. Financiers need governments to break down barriers where they exist, and show support. This sentiment was echoed by respondents, as they felt that the support of government was a very important component when dealing with PPP transactions.

In Section 2.2.5.1 Berman (2004) noted that governments needed to start providing a guiding hand in developing a suitable investor climate. They needed to show

willingness for deals to be concluded and create a regulatory structure that was favorable to project implementation, creating macroeconomic stability and credibility, paying attention to economic fundamentals such as GDP growth, inflation and interest rates, and introducing a borrowing policy that promotes yield-curve development.

5.4.1.5 Relationships / Personalities

Co-operation and engaging other parties was also viewed by respondents as being relevant in PPP transactions. Co-operation through communication and relationship building was agreed to yield better success in ensuring results and concluding PPP transactions timorously.

This fact was reiterated by Estache & Strong (2000) in Section 2.5.5 who suggested that project finance does involve a large number of participants and the interests of all parties and the roles they play need to be catered for and agreed upon. In order for all parties to successfully integrate, and to achieve the set objectives, Anslinger & Jenk (2004) suggest that alliances need to be formed as a way to grow business and maximise shareholder value. This confirms what was mentioned by the respondents.

5.4.1.6 Level of Ground-level Benefits

In Section 2.2.5.4 Estache *et al.* (2000) suggest that privatisation, if properly thought out, provides an opportunity to end the exclusion of the poor. However this is not always the case. Respondents mentioned the importance of the issue of labour in PPPs and the complications that could arise from it due to issues of over staffing. Part of making these parastatals profitable would be cutting away excess costs including excess labour. Governments often stipulate that incoming concessionaires may not retrench labour but should let numbers decrease through natural attrition. In these cases the additional cost of this is often negotiated against a concession fee. Should there be no such stipulation, in the process of streamlining a parastatal, local employees would be likely to lose their jobs and hence income. Estache *et al.* (2000:29) conclude by saying “it is amazing to see the extent to which governments and their advisors – including sometimes multilaterals – fail to measure, anticipate and monitor the effects of privatisation on the poor”. Respondents felt this would have an impact on potential PPP transactions and mentioned that communities would have to be addressed to see direct benefits, such as employment. If part of a privatisation was to retrench a large number of people in a poor country, this would give a strong case for rejection of that privatisation.

5.4.1.7 Other Factors

In the literature review in Section 2.2.5, the researcher investigated other possible mitigating factors in PPP transactions. Some factors mentioned in this section were

mentioned by respondents, while some were not mentioned at all. Through the research some new factors did, however, come to light. These factors are discussed below.

Difficulty of transacting a PPP transaction - Several respondents mentioned the difficulty of taking on a PPP transaction. This difficulty was due to the different power plays that went with it, and the change that often occurred in the way the company operated. The fact that PPPs are the best way to deliver and manage services is a difficult mindset to encourage in government. From the respondents it seems as if there is also difficulty in encouraging government to accept that a PPP will deliver what they had failed to achieve.

Timescale - The timescale in PPP projects can also be a problem as it can often take 2 to 5 years to secure finance, and this can put huge strain on relations, both from the point of view of government delivering on promises, as well as project feasibility.

Perceptions of a PPP - One respondent mentioned that PPPs would not always be top companies providing excellent services. The point of PPPs is to provide an improved service with a benefit to all. People need to look at all the positives that come with privatisation. If the PPP does bring better service and increased efficiency while benefiting the country as a whole, then it can be said that the PPP has been successful.

5.4.2 The Link between Different Factors Explored

Even though mitigating factors have been separated from success factors in the literature review, the researcher concludes from the research that all these factors play an important role. As much as a factor may be a mitigating factor, it is also a success factor. Depending on the disposition of the parties and how these factors are managed, they can either contribute to the success or the failure of a PPP. From this, the researcher concludes that mitigating and success factors are inextricably linked.

5.5 PPP Drivers Suggested by the Study

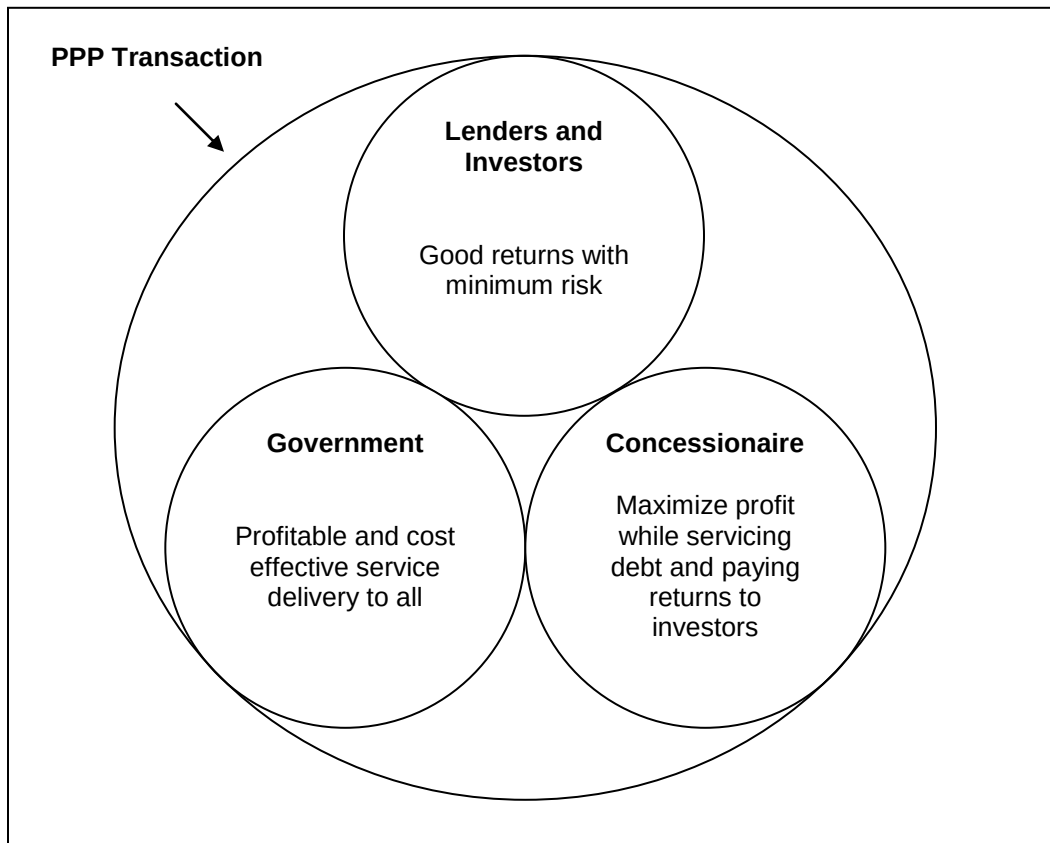
Before looking at the drivers for a successful PPP transaction, it is necessary to understand the motivations behind a PPP. Studying the motivators will form the basis for the model that will be explored in Section 5.5.2.

5.5.1 Motivations for Parties Involved

To be able to formulate the driving factors in making a PPP transaction a success, it is important that the benefits for each of the major parties involved is identified as these would be major motivational factors for driving a PPP transaction forward and trying to ensure its success. The reason for this is that all the stakeholders need to see a benefit from their participation in a PPP. Should they not realise a benefit there

would be no point to their participation. This concept is illustrated graphically in Figure 9.

Figure 9: Balance between Stakeholders in a PPP



The main goals for each of stakeholders that were uncovered by the study and in this chapter were:

- Lenders and Investors – to invest in a project with good returns based on the base case of the market while minimising risk;

- Government – for the privatisation of an asset to be profitable for government while providing improved and cost-effective service delivery to all; and
- Concessionaire – maximise their profits while servicing debt and paying investor's expected returns.

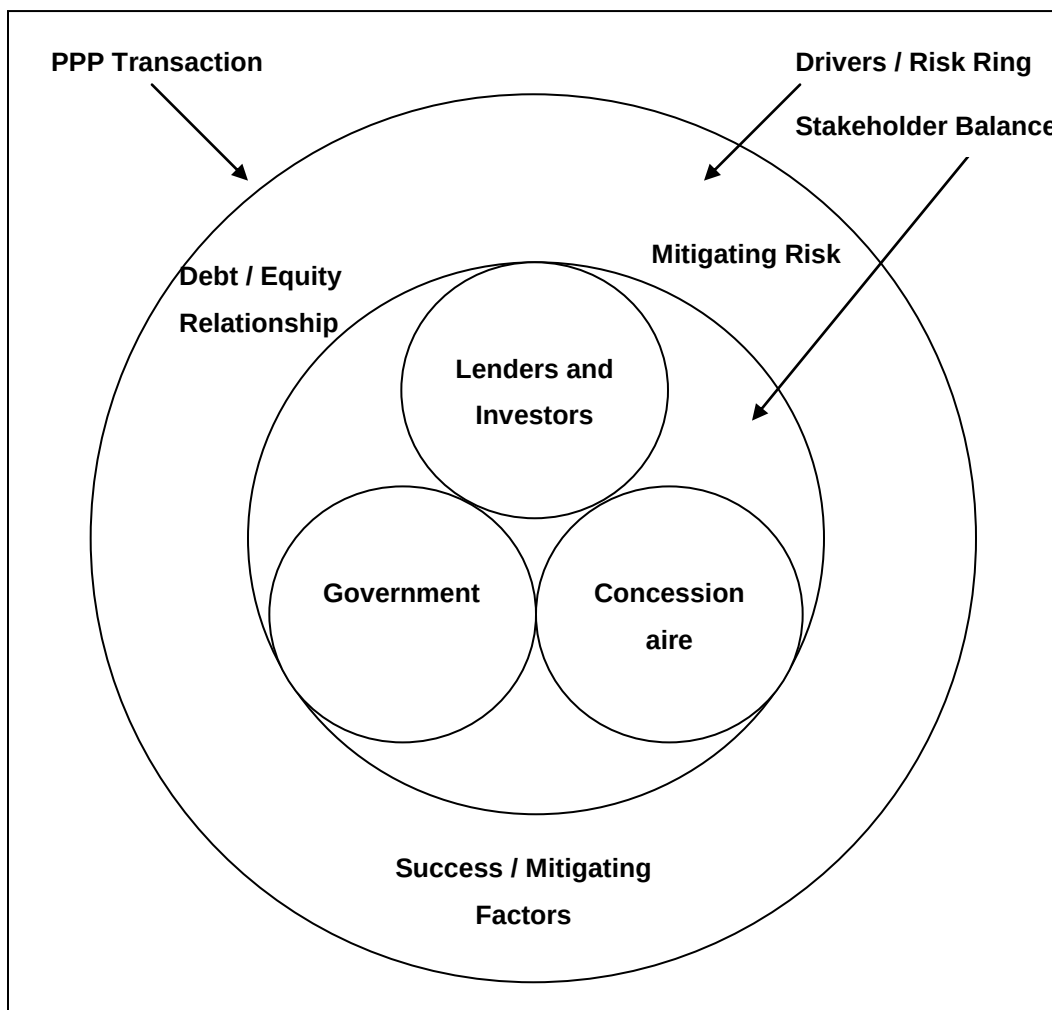
5.5.2 Drivers for a Successful PPP

The most important aspect of a PPP transaction and the driving factors have been incorporated into a model which demonstrates their impact and their relation to one another. The model is an expansion of Figure 9, which demonstrated the main drivers for the different stakeholders.

The basis of the model is the graph explored in Section 5.5.1. The theory behind this representation is that the lenders/equity investors, government and concessionaire are all linked in the transaction and dependent on one another. None of the stakeholders would get involved in a PPP unless they realised a benefit from their involvement. The stakeholders are also linked to one another in the inner circle represented in Figure 10 as each party is dependent on the other for the transaction to take place and for the transaction to be a success. The government needs the concessionaire to run the concession and the bankers and investors to provide the finance. Financiers and investors need the government support and the concessionaire to run the concession (even though bankers and investors can invest

their money elsewhere, for a PPP transaction government and concessionaires are essential). The concessionaires need government to present the concession and the bankers and investors to provide the finance. The circles in Figure 10 are represented as being the same size and hence in harmony with one another to represent the balancing effect that will be achieved by the reliance of one stakeholder on another. If there is an attractive upside for all the stakeholders they will negotiate terms and ratios that are agreeable and profitable to all parties involved.

Figure 10: Drivers in a PPP Transaction



From the research the researcher concluded that in PPP transactions, debt and equity were reliant on one another, that identifying and mitigating risk was an essential component and understanding mitigating and success factors (and their link to one another) would help to ensure the success of a PPP transaction. The model was therefore expanded to include these factors on the basis that all three formed an essential component of PPPs, and that a PPP was unlikely to succeed without these different factors being addressed.

The outer circle in Figure 10 represents a complete PPP transaction.

6. Conclusion

6.1 Importance of the Study

The introduction to this study identifies several trends with regard to the provision of infrastructure. One of these trends in Southern African countries is the privatisation of parastatals and other assets.

In order to help fulfil the needs of this trend, PPPs have been increasing in number in this region as a means of providing the expertise, financing and support that these privatisations require.

To be successful, financiers participating in this process should be aware of the relationship between debt and equity and the roles these components play as well as be aware of mitigating and success factors in these transactions.

The importance of this study lies in the exploration of these factors, and the relationships these different aspects have with one another as part of the complete system.

6.2 The Main Findings of the Study

The study found that the understanding of PPP transactions in the Southern African region is generally good, and that the regard for these transactions is high. PPP transactions are viewed by many as being a real solution to the

problem of unprofitable and overweight parastatals. What did emerge as an issue was the relative infancy of privatisations in the Southern African region, where South Africa clearly leads the way. The difference between South Africa and other Southern African countries was the provision of pre-determined frameworks that would greatly speed up the initial negotiations.

The study also found that the issues of debt and equity were crucial to one another for the success of a transaction, and were linked, as they both brought security to the table that the other party felt was essential.

Risk determination and allocation were also considered important issues, and directly affected the cost of capital and the likelihood of securing finance and consequently the success of the transaction.

Factors explored in the research were generally well documented through the history of previous transactions, but the study did reveal factors that were unknown to the researcher that form important points of consideration for future PPP transactions.

The study led to the formulation of a model of the PPP process. The model includes each of the stakeholders' key goals and shows the inter-relatedness of these goals in a PPP. The model was then expanded to include important components of a PPP as explored in the research.

6.3 Suggestions for Further Research

Since the concept of PPP transactions, even though well understood, are relatively new, what may be of interest would be to conduct a similar study once the market has matured and PPP transactions become more common and to then compare the two studies and see how an increase of knowledge may have changed perceptions or factors that influence these transactions. Further to this, what may be of interest would be to attempt to measure the benefits in quantitative terms to try and ascertain if there really are value and benefits in PPP transactions.

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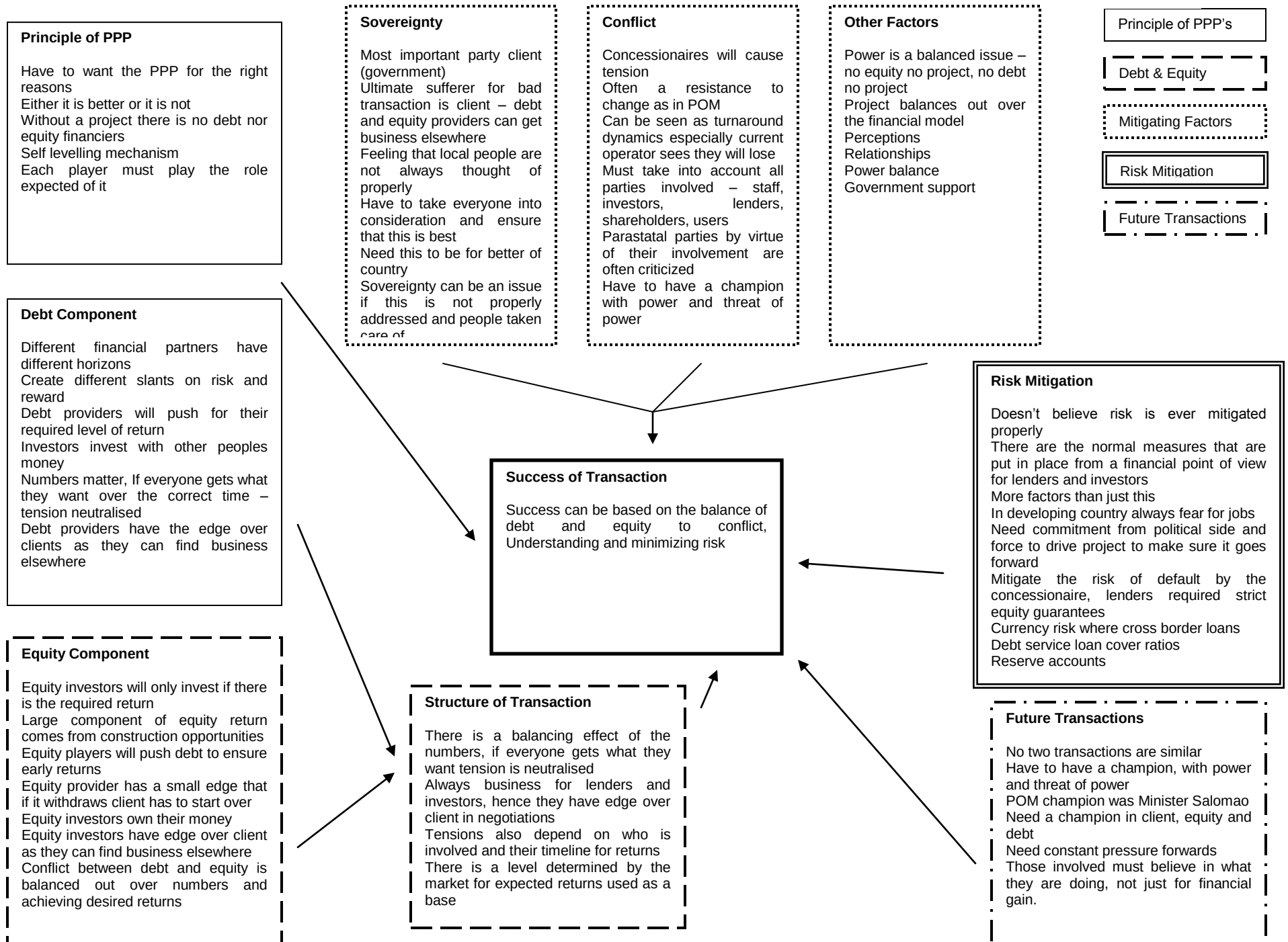
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Appendix 1 - Interview Sample

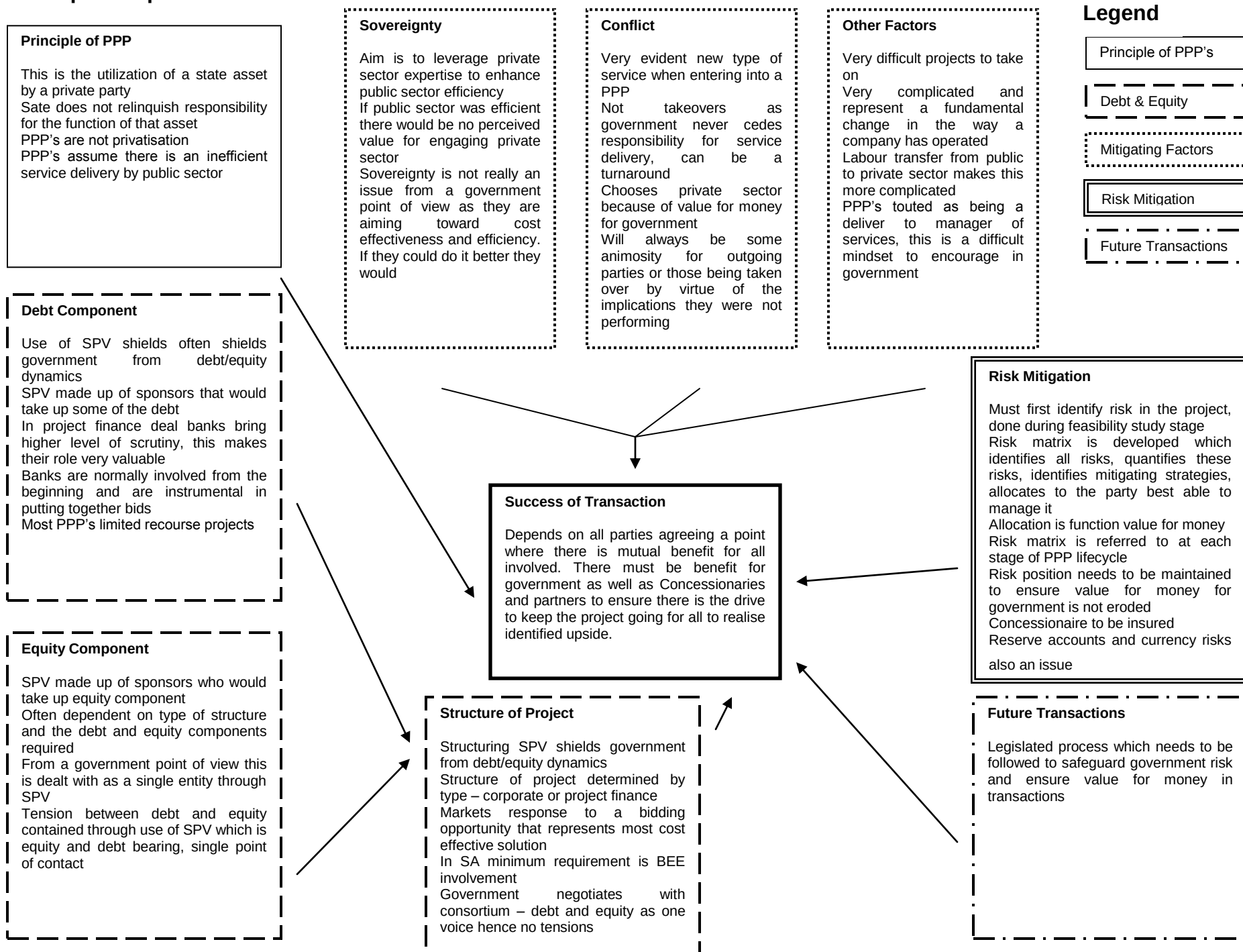
Organisation	Name	Designation/Division
Lenders		
Standard Bank	G. Kosovos	Project Finance
Development Bank of South Africa	P. DuPlessis	International Finance Unit
Development Bank of South Africa	P. Copley	Special Projects
Standard Bank	A. Campbell	Project Finance
Consultants		
Price Waterhouse Coopers	V. Argawal	Corporate Finance - Nairobi
Price Waterhouse Coopers	J. Aiello	Public Private Partnership Specialist Consultant
Nedbank	T. Fourie	Management Public Sector Business
KPMG - Mozambique	J. Garvey	Business Consultant
Government Departments		
South African Treasury	C. Faustino	Public Private Partnership Debt
Concessionaires		
CFM	O Diniz	Administrator and Executive Director

Appendix 2 - Data Maps

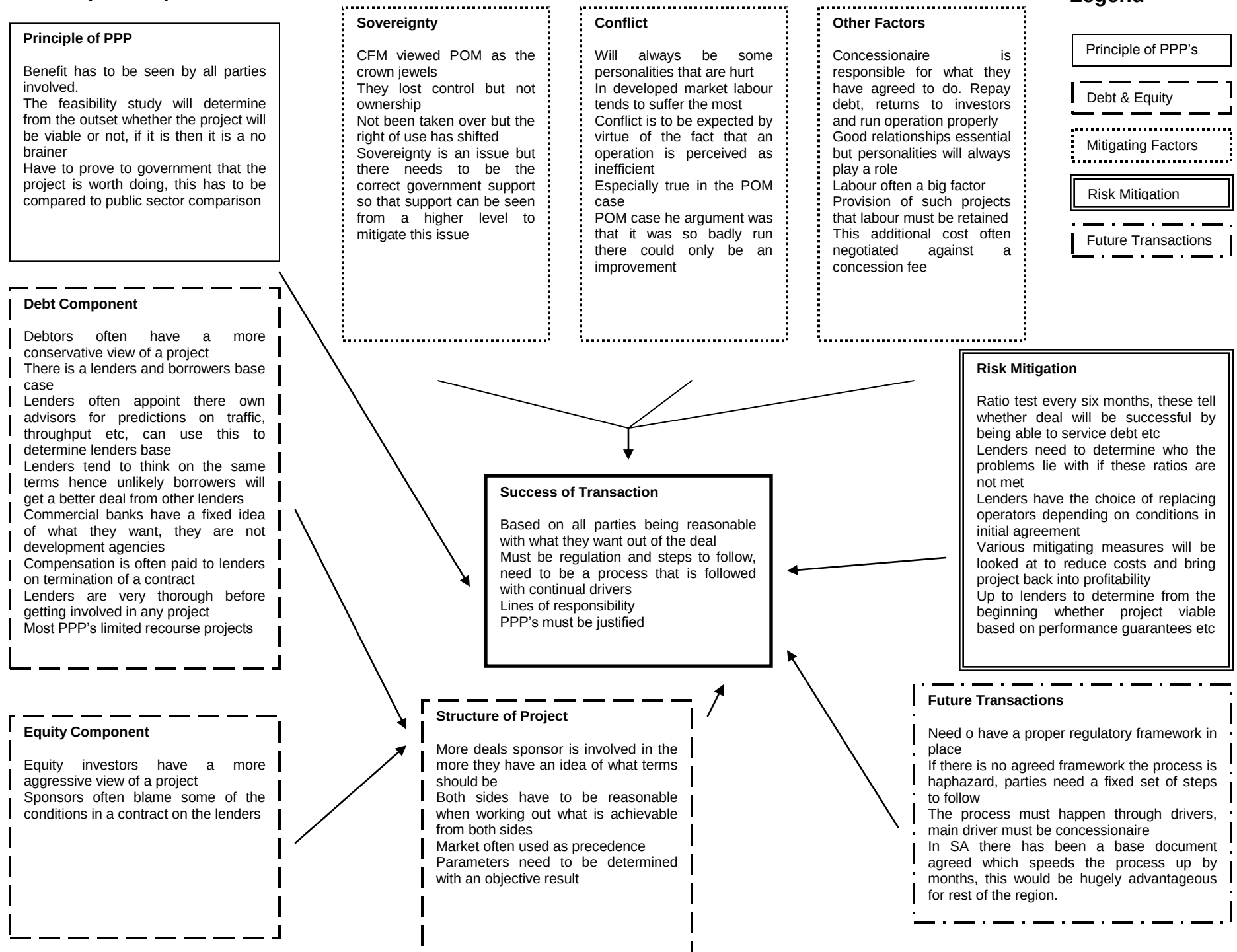
Data Map – Respondent 1



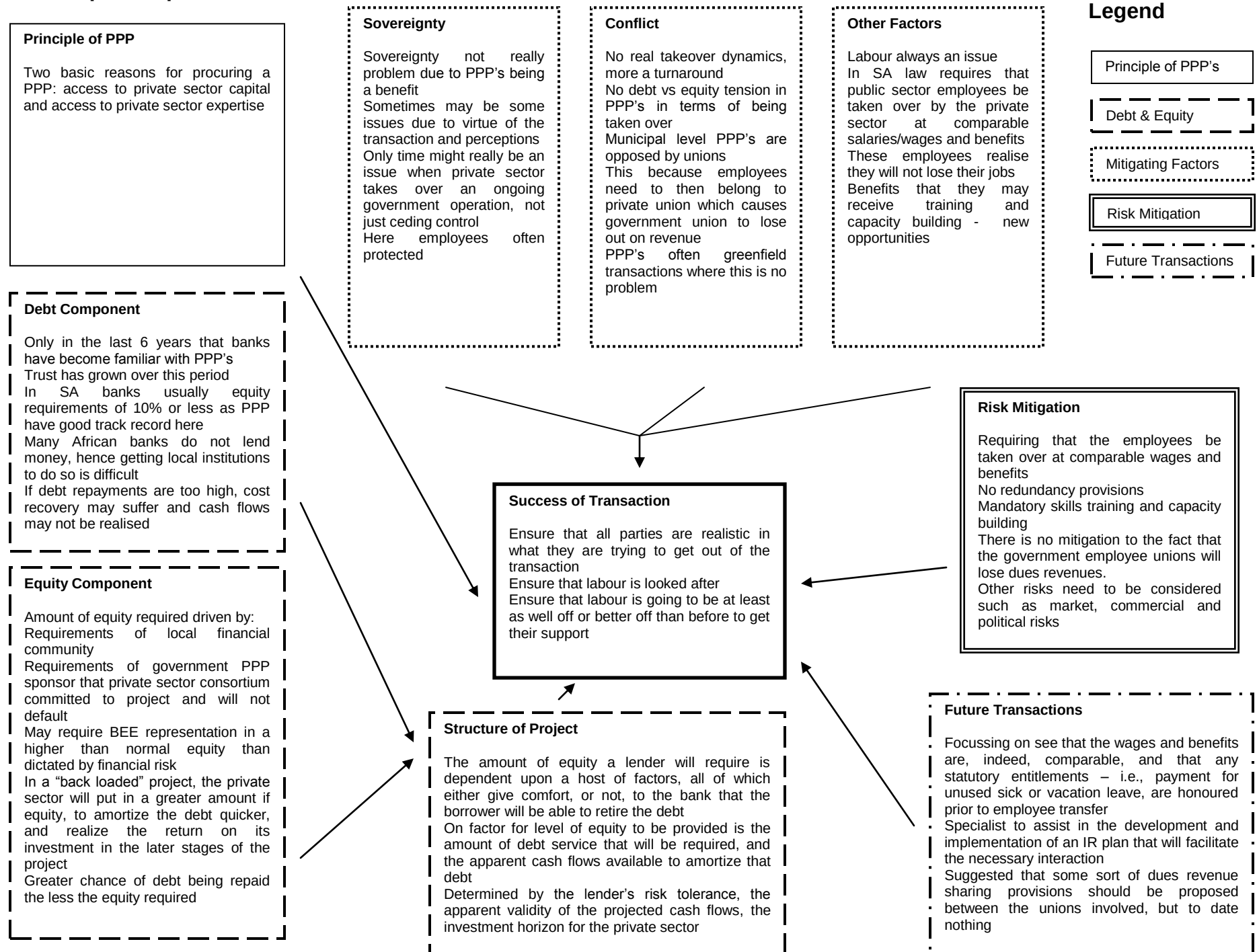
Data Map – Respondent 2



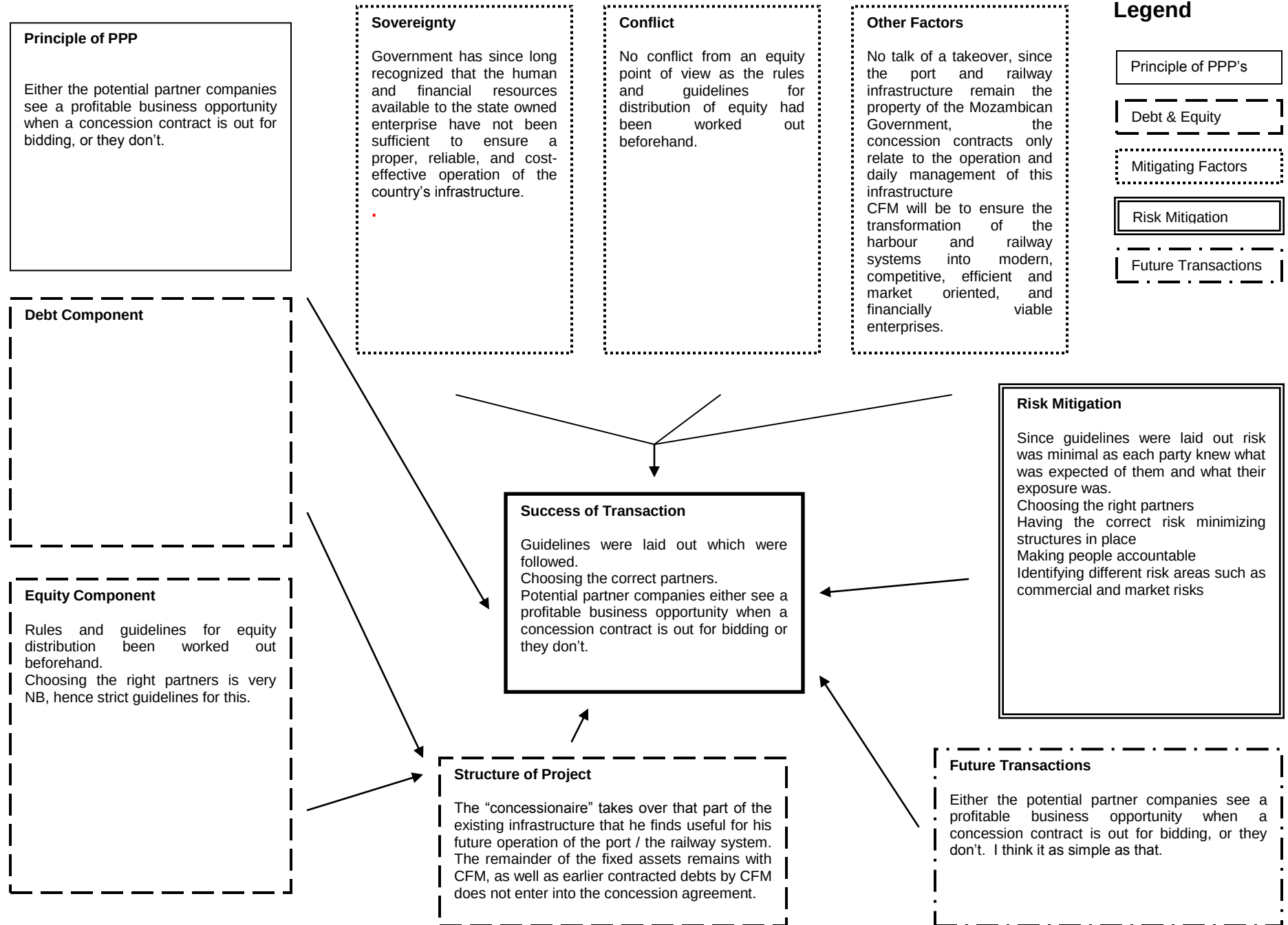
Data Map – Respondent 3



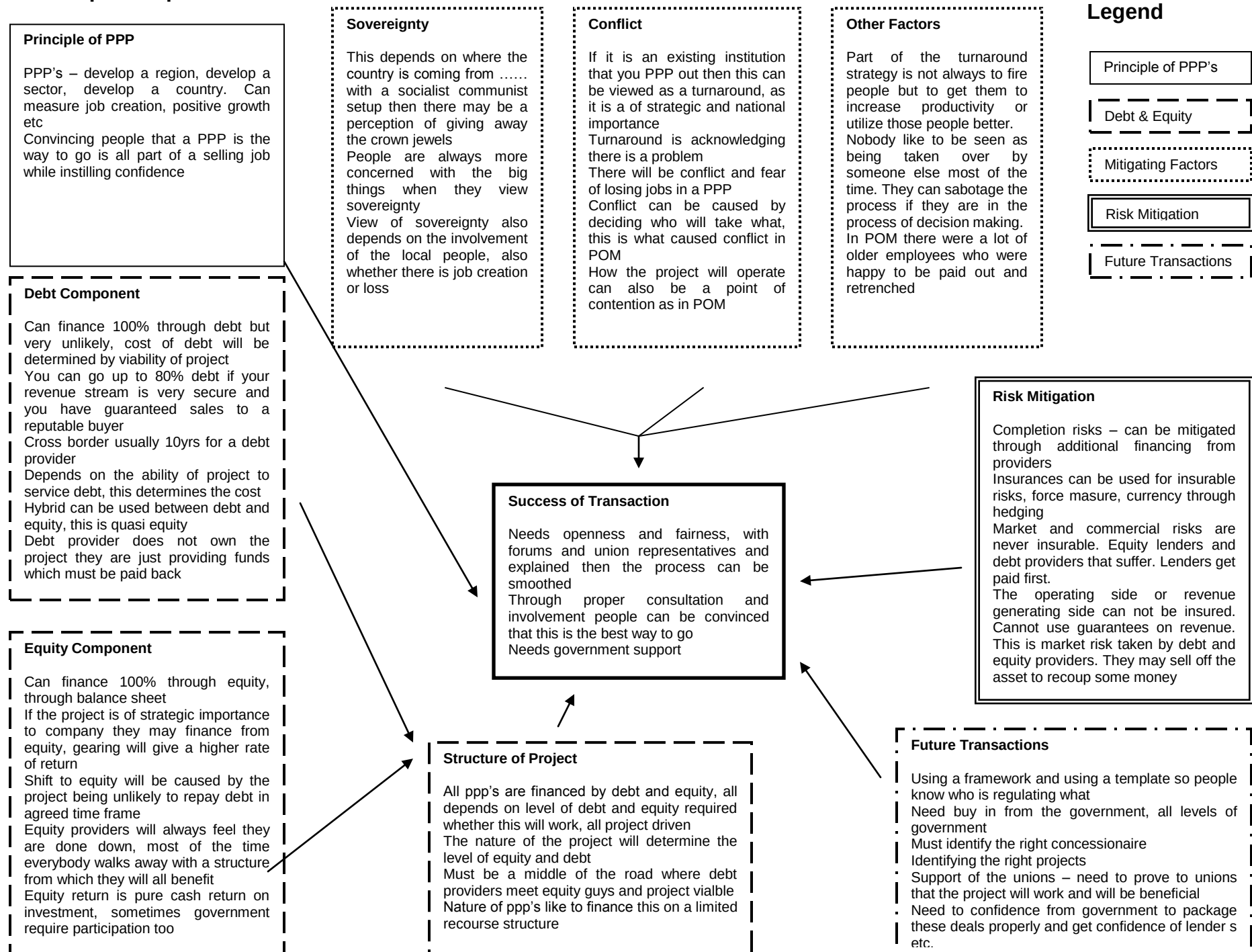
Data Map – Respondent 4



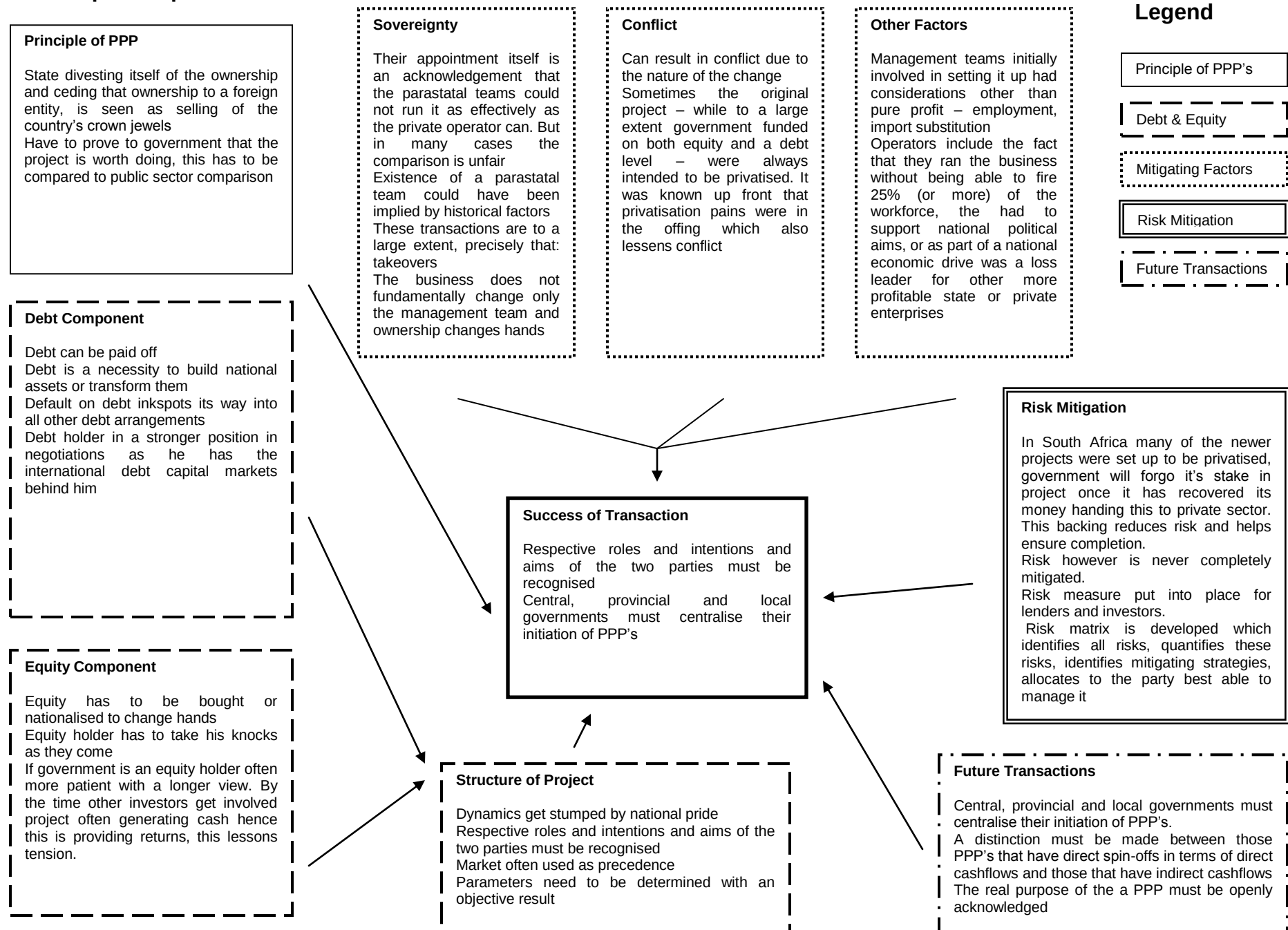
Data Map – Respondent 5



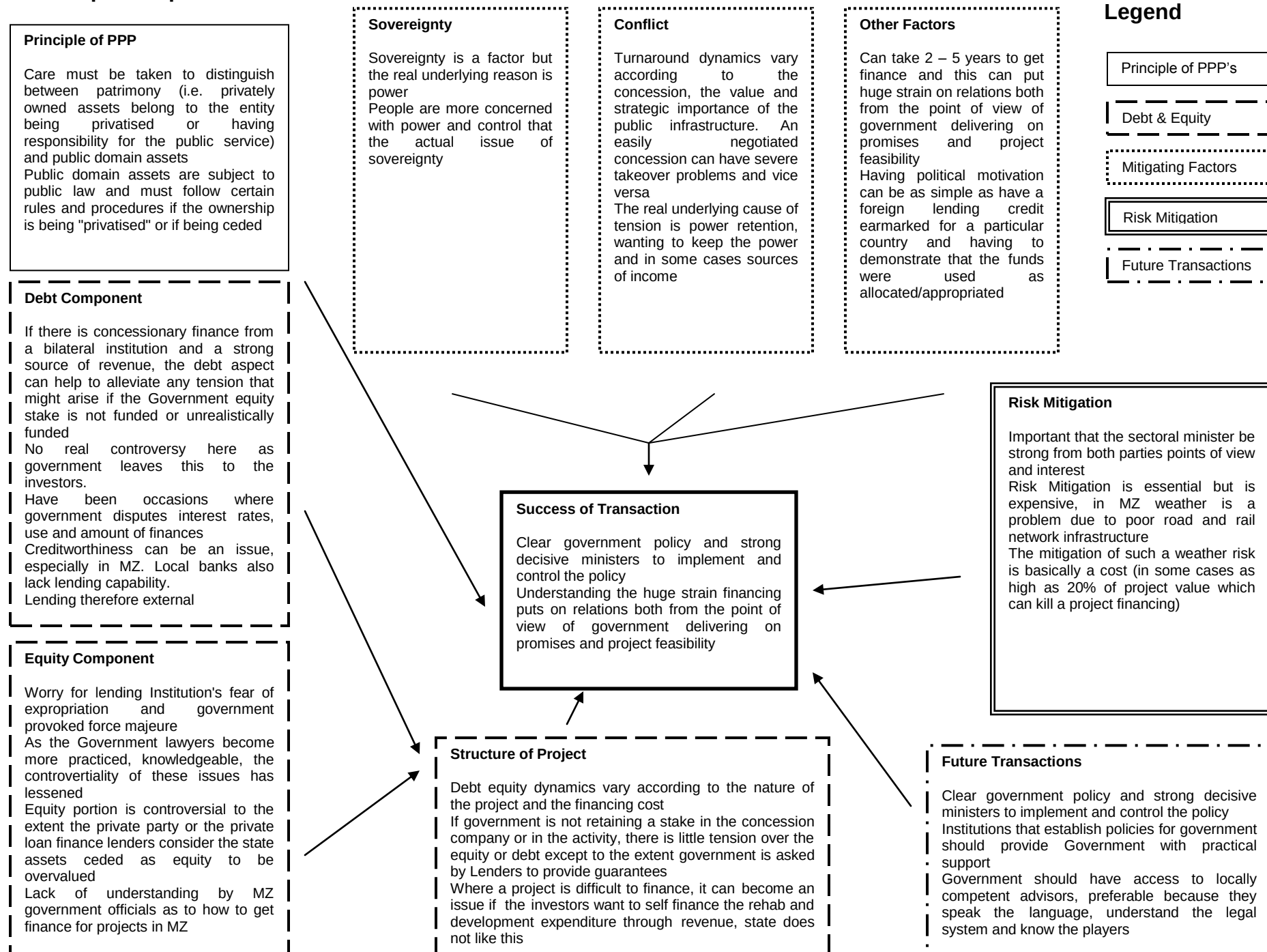
Data Map – Respondent 6



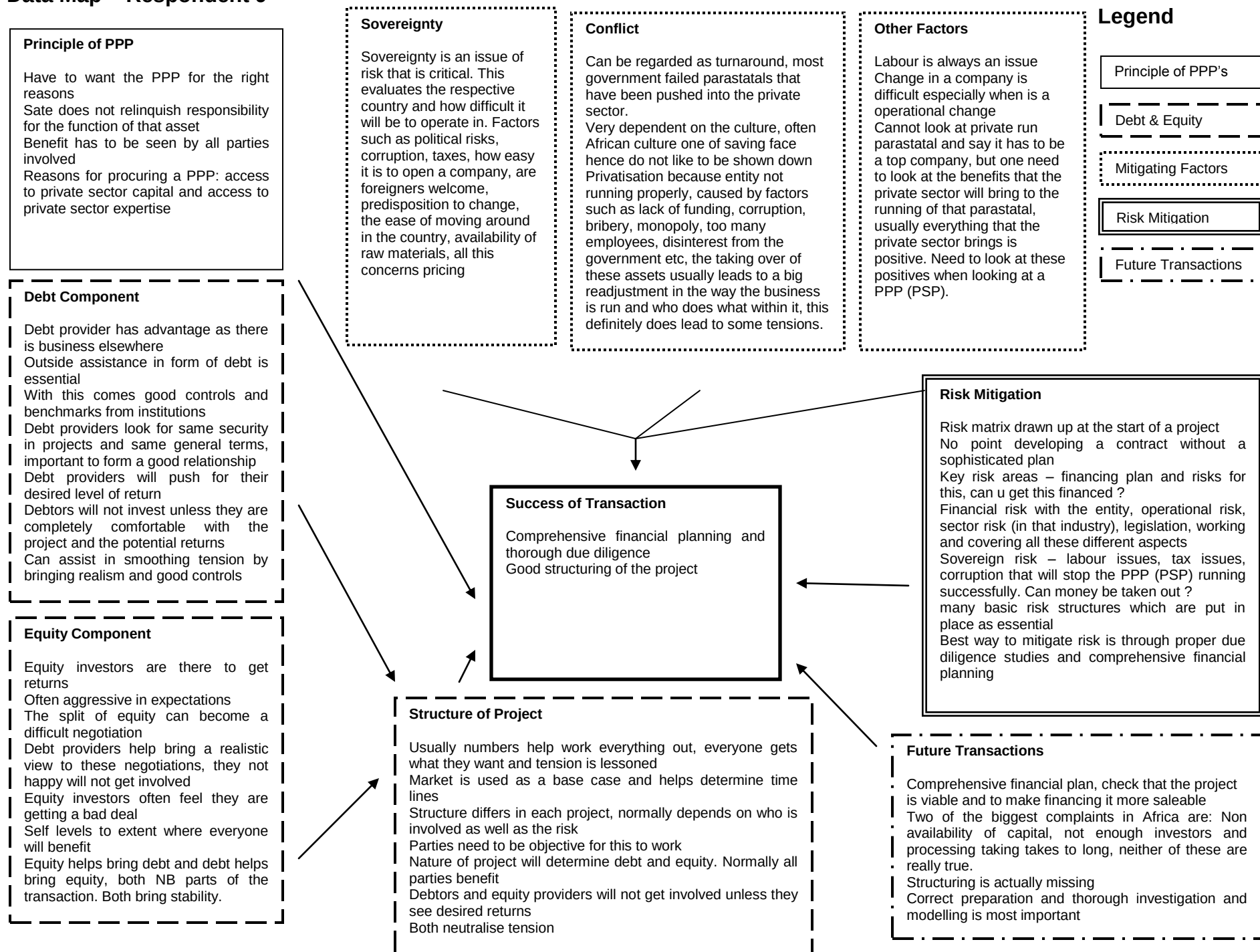
Data Map – Respondent 7



Data Map – Respondent 8



Data Map – Respondent 9



Data Map – Respondent 10

