

The potential role of public-private partnerships in the South African economy: An innovative conceptual public-private partnerships model for small and medium enterprise development

by

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Declaration

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I, Patrick Velaphi Mabuza, declare that "*The potential role of public-private partnerships in the South African economy: An innovative public-private partnership model for small and medium enterprise development*" is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete reference.

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DATE

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Abstract

The introduction of PPPs in infrastructure provision has changed the way in which governments around the world now view infrastructure provision. However, the introduction of PPPs to deliver the needed infrastructure has benefited only a few companies. Most of these companies are the big construction firms that possess technological know-how and those that have the financial ability to execute large infrastructure projects. Although SMEs are important for employment creation, inequality and poverty reduction, the participation of SMEs in these PPP projects is very low. This is because PPP models in developing countries are based on those used in developed economies, and such models ignore the socio-economic problems facing developing countries.

Therefore, this study argues that PPP projects in developing countries present an opportunity for growing the SME sectors in developing countries. It challenges the viewpoint of seeing infrastructure backlogs only as providing opportunities to big private sector companies and argues that infrastructure backlogs can be used by governments to reduce the triple challenges of unemployment, poverty and inequality by linking SMEs to PPP projects. The traditional PPP model that is being applied by many developing countries does not fully encourage the participation of SMEs in PPP projects, as most of the projects executed through this model are bundled into big projects that SMEs cannot execute due to a lack of technological know-how and weak balance sheets.

The study therefore suggests different ways in which the participation of SMEs in PPP projects could be improved based on the results of the survey conducted for this study. The study then proposes an “*innovative conceptual PPP model for sustainable SME development*” that takes into account the needs for developing countries to create jobs, reduce poverty and inequality. It also takes into account all challenges for SMEs identified through the review of literature and the study survey.

Key terms

public-private partnerships; preferential procurement regulations; concession; efficiency-risk-adjusted profits; special purpose vehicle; delegation of tasks; *ex-ante* and *ex-post* competition; small and medium enterprises; legal environment; transparency; regulation, good governance; institutional framework; political commitment; institutional PPP models; PPP firms, *survey-monkey* and innovative conceptual PPP model.

List of acronyms

AfDB	African Development Bank
AFP	Alternative Financing and Procurement
BBBEE	Broad-Based Black Economic Empowerment
BEE	Black Economic Empowerment
BOOT	Build-Own-Operate-Transfer
BOT	Build-Operate-Transfer
CIDB	Construction Industry Development Board
CSIR	Council for Scientific and Industrial Research
CTC	Competitive Tendering and Contracting
DBFO	Design, Build, Finance, Operate
DoE	Department of Energy
DTI	Department of Trade and Industry
FDI	Foreign Direct Investments
HDI	Historically Disadvantaged Individuals
IDC	Industrial Development Corporation
IGFRA	Intergovernmental Fiscal Relations Act
IMF	International Monetary Fund
IPP	Independent Power Producers
MFMA	Municipal Finance Management Act
MSA	Municipal System Act
MTEF	Medium-Term Expenditure Framework
NGO	Non-Governmental Organisations
OECD	Organisation for Economic Co-operation and Development
PFI	Private Finance Initiative
PFMA	Public Finance Management Act
PPP	Public-Private Partnerships
PPR	Preferential Procurement Regulations
PSC	Public Sector Comparator
SADC	Southern African Development Community
SAMAF	SA Micro-finance Apex Fund

SANRAL	South African National Road Agency Limited
SEDA	Small Business (Enterprise) Development Agency
SMEs	Small and Medium Enterprises
SOE	State-Owned Enterprises
SPAID	Support Programme for Infrastructure Development
SPV	Special Purpose Vehicle
TEA	Total Entrepreneurship Activity
TIA	Technology Innovation Agency
UNECE	United Nations Economic Commission for Europe
VfM	Value for Money

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CHAPTER 1: INTRODUCTION

1.1 Introduction

An increase in global economic growth, demographic trends, public health needs, safety needs as well as transport needs have led to infrastructure requirements far in excess of currently available financing resources (OECD, 2006a:3 and Quiggin, 1996:53). The increase in demand for infrastructure services has put a lot of pressure on governments to increase investment in infrastructure (De Bettignies and Ross, 2004:135). Failure to meet this ever-increasing pressure for infrastructure investment could prove costly in terms of economic growth and development.

As a result of this increasing pressure on governments around the world to provide more and better services to their citizens on limited budgets, innovative infrastructure delivery mechanisms have been developed by both the public and the private sectors to deliver the needed public services (Urban Land Institute, 2005; De Bettignies and Ross, 2004:135). Many governments have resorted to forming public-private partnerships (PPPs) to benefit from both technical and financial know-how of the private sector (Harris, 2003:2). Although the use of PPPs (private sector partner/party or the concessionaire) by governments has increased in the past decade to procure the needed infrastructure, governments have not yet fully taken advantage of the potential that PPPs have to address some of the socio-economic challenges facing developing countries, such as unemployment and poverty.

The objective of this study was therefore to develop an innovative conceptual PPP model for sustainable SME development and to determine the potential role of PPPs in the South African economy. The study therefore, demonstrates that PPP projects can be used by governments to create jobs, thus reducing poverty and inequality, given the long-term nature of PPP concessions that may last for more than 25 years.. It begins by defining PPPs and the global demands that have somewhat compelled governments to engage PPPs in service delivery, as well as the different PPP schemes.

The first part of this chapter starts by discussing the role of infrastructure in economic development, followed by a discussion on the new infrastructure financing mechanism and how it has changed the nature of infrastructure procurement around the world. The chapter then briefly discusses the potential role of PPPs in developing sustainable small businesses (SMEs) and also gives a brief discussion on PPP trends in South Africa. The last part of the chapter focuses on the rationale for the study, problem statement, study objectives, research questions, research methodology and the layout of the rest of the chapters of the study.

1.2 The role of infrastructure in economic development

The contribution of infrastructure to economic development is widely recognised as very important for both households and private firms. Its availability and quality influence a number of decisions related to investment, migration, business establishment and locations (United Kingdom. Department for International Development, 2007:15). Infrastructure services are used as final consumption by households and intermediate consumption items for firms. However, the link between infrastructure and development outcomes is still a topic for debate among economists (Snieska and Simkunaite, 2009:16).

Although the debate on the link between infrastructure and economic outcomes is still ongoing, several empirical studies, such as those conducted by Rives and Heaney (1995:69), Bafoil and Ruiwen (2010:75), Kim (2006:4), Munnell (1992:192), and Boopen (2006:48) found a positive relationship between infrastructure availability and economic development. The results of these studies show clearly that infrastructure availability is imperative for the facilitation and acceleration of socio-economic development.

According to Snieska and Simkunaite (2009:16), if adequate infrastructure is not in place, economic development will be hampered and it will be very difficult to achieve. If achieved, it would have been attained at a much higher cost than would be the case if infrastructure was adequately provided by the state. The way a country invests in its infrastructure is imperative for economic development. Adequate infrastructure stock is important for the expansion of a country's productive capacity.

It helps to accelerate the rate of economic growth and enhance the pace of socio-economic development. According to Rives and Heaney (1995:60) and Khan and Weiss (2006:2), infrastructure does the following: (i) it provides services that are part of the consumption bundle of citizens, for example services such as water, sewer, electricity, telecommunication; (ii) it manages large-scale public expenditures on infrastructure increases aggregate demand and provides short-run stimulus to the economy through economic multipliers; (iii) it serves as an input into private sector production; and (iv) it serves as a magnet in the location decisions of firms and households. What this means is that poor quality infrastructure leads to poor services for both households and firms.

According to Kim (2006:14), the economic effects of infrastructure can be broadly divided into two types, namely the *demand creation effect* and the *stock effect*. The *demand creation effect* relates to the assertion that investment in infrastructure stimulates local demand in other economic sectors, creating jobs and stimulating the economy, thereby increasing overall production. The *stock effect* relates to the assertion that investment in infrastructure increases infrastructure stock in the economy and this helps with providing infrastructure services at lower prices. Through the improved services provided by infrastructure stock, the production costs of the private sector are reduced indirectly and their productivity is increased. It also expands market opportunities that positively affect competitiveness and production, and lead to economic growth (Roller and Waverman 1996:2; African Development Bank, 2009b:1). Human development is also dependent on infrastructure availability, as it relies on services that require supportive infrastructure such as water and sanitation to prevent diseases, electricity to serve schools and health clinics and roads to access them. Infrastructure forms a foundation upon which an economy is built (OECD, 2009:12; Snieska and Simkunaite, 2009:19).

Infrastructure availability enhances the productivity of firms. Empirical evidence in a study conducted by Munnell (1992:192) in the USA in 1990 found that public investment in infrastructure enhances the productivity of private capital by raising its rate of return and encouraging more investment. Another empirical work that supported the impact that infrastructure has on productivity is that by Yoshino and

Nakahigashi (2000:8), which assessed the impact of infrastructure on productivity for both Japan and Thailand before and after World War II. The results of this study showed that the impacts are large in most industries except in agriculture. Boopen (2006:48) also opined that empirical analysis supports the positive effect of infrastructure on productivity. This study looked at the link between transport infrastructure and economic growth in African countries and island states, and found that transport capital is an important element of these countries' development and it has an average productivity level of overall investment. Noriega and Fontenla (2005:11), using Mexican data for 1950 to 1994, found that shocks to infrastructure have positive and significant effects on real output.

These findings are in agreement with the growth models used to analyse the impact of infrastructure on economic growth and development, and they show clearly that there is no doubt that infrastructure contributes to economic development through an improvement in productivity and an increased return on investment. This is true, because good quality infrastructure reduces input costs for private firms as it is used as intermediate inputs into their production processes, thus increasing firms' profitability in the long term.

Infrastructure investment improves income disparity through the trickling-down and spill-over effects when economic growth continues for a long period. Infrastructure development in rural areas has a considerable impact on the distribution of rural income since it leads to improved farm outputs, and because of access to infrastructure, these outputs get sold to urban markets (Kim, 2006:13, OECD, 2009:12; United Kingdom's Department for International Development (DFID), 2007:15). According to Snieska and Simkunaite (2009:19) and Gunatilaka (1999:1), basic services such as water and electricity often occupy a significant fraction of the budgets of poor households. Easy access to such infrastructure services by poor households significantly improves their income levels and their living conditions (Yoshino and Nakahigashi 2000:8; Calderon and Servén, 2008:29; Ali and Pernia, 2003:3).

Infrastructure development can be considered as a prescription needed for reducing poverty. Fan (2004:4) summarises a number of empirical studies that indicate that road infrastructure and infrastructure in general have both direct and indirect effects on poverty reduction. The indirect effects come as a result of improved productivity in the economy that ensures sustained growth in output, employment and income that is a prerequisite for achieving long-term poverty reduction. The direct effect comes about as a result of employment opportunities, improved health due to easy access to health facilities, access to clean water and sanitation which decreases incidences of illness, thus increasing productivity and through increased FDIs. For example, the construction of road infrastructure directly improves productivity, wages, employment and economic welfare of the poor (Ali and Pernia, 2003:9, Fan, 2004:5; Munnell, 1992:192). An empirical study conducted during 1999 in India found that about 7% of the growth in aggregate output could be directly attributed to road investments, in addition to indirect contributions through the attraction of banks in areas with improved roads conditions (Pouliquen, 1999:2).

It is imperative to note that the link between infrastructure and poverty alleviation is neither straightforward nor necessarily creating infrastructure automatically and directly alleviating poverty (Pouliquen, 1999:6). Infrastructure may not have the desired economic impact if not properly planned. Sometimes its impacts may go well beyond simple economic consideration (Pouliquen, 1999:7). Empirical work by Yoshino and Nakahigashi (2000:13) on South East Asian countries using data from 1905 to 1940 for Japan and 1970 to 1996 for Thailand failed to find any relationship between infrastructure and inequality. This may imply that investment in infrastructure needs to be accompanied by relevant policies that are aimed at improving the effectiveness of infrastructure in reducing inequality. Equally important is the institutional environment that needs to be in place in order to allow infrastructure investments to be translated into economic growth that also addresses inequality (Dodonov, Von Hirschhausen & Sugolov, 2002:30). This implies that it may be difficult to reduce inequality in a country where there is no or poor infrastructure stock. According to Mills (2014:2), in 2014 about 80% of jobs in infrastructure construction in the United States of America are at small businesses and that is the largest small business concentration of any industry. Investment in

infrastructure has a direct impact on small construction business development and SMEs in general.

1.3 New developments in financing infrastructure projects

There seems to be little disagreement about what should be done to reduce poverty, inequality and unemployment. A market-oriented and growth-inducing approach that expands opportunities for production and employment among the poor, and development strategies that improve access to social services such as health, education and other poverty alleviation initiatives are key to any poverty-reduction strategy (Gunatilaka, 1999:1). Investment in infrastructure that improves access to these services and markets is imperative for both economic growth and development.

For infrastructure to have the desired impact on poverty and unemployment there has to be a proper infrastructure plan with clear objectives that are linked to the development strategies of a country (Kim, 2006:1). One of these developmental strategies can be the development of the small and medium enterprises (SME) sector, as is being advocated in this study. However, an infrastructure plan needs to be accompanied by another plan that details the way in which the infrastructure plan will be financed. Given the fact that most governments no longer have adequate budgets that can finance their desired level of infrastructure stock, they have identified a new infrastructure-financing mechanism which is different from the traditional method (Masika and Baden, 1997:2). The traditional method of financing infrastructure is such that the government finances the construction of the infrastructure asset from its own balance sheet or from the national budget allocation. It also takes all the risks and responsibilities associated with constructing and operating the infrastructure asset. Such responsibilities include, but are not limited to, designing, financing, maintaining and operating the infrastructure asset. This new financing mechanism is called public-private partnerships (PPP). The PPP approach has led to the introduction of a new form of management and financing for infrastructure provision. Under this new form of financing, ownership is no longer seen as the exclusive responsibility of the public sector. It is now shared between the public and the private sectors for a specified period, as it involves collaboration

between both parties with the aim to build and operate an infrastructure asset that will deliver services to the public. According to Yescombe (2007:3), PPPs have the following key elements: (i) long-term contracts between the public party and the private sector party, (ii) design, construction, financing, and operation of public infrastructure by the private sector, (iii) payments over the life of the PPP contract to the private-sector party for the use of the facility, made either by the public sector party or by the public as users of the facility; and (iv) the facility remains in private-sector ownership, or reverts to public-sector ownership at the end of the PPP contract¹.

According to Grimsey and Lewis (2005:xiv), “PPPs bring together, for mutual benefit, a public body and a private company in a long-term joint venture for the delivery of high-quality public services, drawing on the best of the public and private sectors”. As a result, PPPs provide additional resources for investment in the public sector and the efficient management of the investment. This has led to the private sector providing or constructing most of the big infrastructure projects on behalf of the public sector, using their own funds with little or no cost to the public sector. This has freed up limited government budgets to focus on providing other priority public services. In addition to bringing together both the public and the private sectors, this study argues that PPPs have the potential to also bring in the SME sector in a PPP project for the benefit of the economy as a whole.

In recent years the private sector has shown an increased interest in working with the public sector in providing infrastructure and infrastructure services. Ramamurti and Doh (2004:152) identify five reasons why the role of the private sector has increased in infrastructure provision; namely (1) infrastructure sectors are losing their natural monopoly characteristics; (2) first-movers expect to profit handsomely from the emerging liberalisation of these sectors; (3) novel techniques such as project financing help reduce investment risks sharply; (4) the climate for foreign direct investments (FDIs) in developing countries has changed in recent years; and (5) the likelihood of the host developing countries to expropriate has decreased significantly

¹ More discussion on the nature of PPPs is covered under Chapter 2 of this study.

due to improved political stability and globalisation. It is envisaged that the involvement of the private sector in public infrastructure provisioning is to increase over time as pressure on governments for infrastructure services increases.

The introduction of PPPs in infrastructure provision has changed the way in which governments around the world now view infrastructure provision. Yescombe (2007:3) asserts that PPPs are an alternative to the traditional public-sector procurement of goods and services. The traditional public sector's procurement of an asset or facility is such that the design, building, financing, operating (DBFO) and maintenance of the asset to be built remain the responsibility of the public sector. Although the public sector does not build the facility itself, as it contracts a private sector contractor to construct the facility, it however carries all the risks involved in the procurement of the asset. In a PPP, the public authority transfers all these responsibilities to the private sector. The public authority only specifies its requirements in terms of outputs, which sets out the public services the facility is intended to provide. The private sector then designs a facility that will meet the public authority's long-term outputs requirements. The government's role in a PPP arrangement changes from one of managing and operating the asset to managing contracts and ensuring that a predetermined level of service quality is delivered. Even in the case where the private partner agrees to take a full range of designing, building, financing and operating activities, the public sector continues to maintain an on-going business relationship with the private partner. This is to ensure that the agreed quality service levels as stipulated in the PPP contract are met by the private partner.

Bojovic (2006:302) attempts to define the nature of the relationship between the public and private sector parties in a PPP arrangement. He asserts that it is a profit and risk-sharing relationship that brings about the desired public policy outcomes. He further asserts that PPPs seek to draw upon the best available skills, knowledge and resources, whether they are in the public or the private sector, and deliver value for money (VfM) in the delivery of infrastructure or a service. The reasons for establishing such partnerships vary, but generally, involve the financing, design, construction, operation and maintenance of public infrastructure and services. The private sector undertakes to provide public infrastructure assets for their "full-life-

cycle”, generally 20 to 30 years, after which the assets revert to government (Blondal, 2005:19).

However, the introduction of PPPs in many countries to deliver the needed infrastructure has benefited only a few companies. Most of these companies are the big construction firms that possess technological know-how and those that have the financial ability to execute large infrastructure projects. Although SMEs are important for employment creation, inequality and poverty reduction, the participation of SMEs in these PPP projects, especially in terms of the contract size based on the amounts that are allocated to SME firms, is too low. This calls for a direct intervention to find a way in which the participation of SMEs in PPP projects could be improved in order to create the needed jobs and reduce poverty, especially in developing countries. The traditional PPP model (see Figure 1.4) that is being applied by many countries does not fully encourage the participation of SMEs in PPP projects, as most of the projects executed through this model are bundled into big projects that SMEs cannot execute due to lack of technological know-how and weak balance sheets.

Below is a discussion on why it is important to use public-private partnerships to develop the SME sector and what needs to be in place in order to achieve this. It discusses how PPPs should be used by developing countries to fight poverty, unemployment and inequality through the development of the SME sector.

1.4 Public-private partnerships and SME development

The contribution of SMEs to economic growth and development is not questionable. SMEs’ contribution to economic development is through job creation, offering advanced and innovative products and services and enhanced international trade of an economy through diversification (Hussain, Farooq & Akhtar, 2012:1582). According to UNIDO (2007), SMEs are effective job creators and enjoy the reputation of being sources of income for a big proportion of a country’s population.

As SBP (2009) asserts, one of the most obvious and surprising untapped ways in which companies can support development objectives in countries and communities in which they operate is through spreading economic opportunities through a variety

of small enterprise development, training and business linkage initiatives. This is the role that large PPP projects should play in the economies of developing countries. PPP firms should make use of SMEs to provide them with the services that PPP projects need.

The traditional PPP model (see Figure 1.4) does not mention the use of SMEs as potential providers of goods and services for PPP projects. These models have overlooked or underestimated the potential that PPP projects can have in developing a sustainable SME sector that can create jobs for the unemployed and generate income for the poor, while at the same time addressing the challenge of infrastructure backlogs. Most debates in the PPP arena are about finding the best way of using the private sector to deliver public infrastructure, but little is said about using PPPs to develop SMEs and create jobs for the poor. This is the missing link that governments should use to boost job creation through SME development.

As Hussain *et al.*, (2012:1584) assert, PPPs are a source of developing businesses in developing countries. It may seem that the failure of developing countries to use PPPs to fight poverty and unemployment through the development of the SME sector is due to the fact that developing countries adopt PPP models that are based on developmental objectives of developed economies. These PPP models seem to ignore the realities facing developing countries, such as poverty, unemployment and inequality. As a result, most PPPs in South Africa and other developing countries seem to copy PPP models from developed economies such as Europe and North America. Any PPP model that is to fully benefit citizens of developing countries should at least seek to deal with these three challenges faced by developing countries.

The National Treasury PPP Manual, does at least refer to SMEs as one of the requirements that the private sector party must consider once been awarded a PPP project contract. However this requirement is not the main requirement for PPP projects in the country (South Africa. National Treasury, 2004a:29). The manual requires that the private party should demonstrate that at least 30% of its procurements will be from Black Enterprise's SMEs. This SME's requirement is

actually not a PPP requirement, but since it falls within the requirement of the Broad-Based Black Economic Empowerment (BBBEE) policy as per the sector BBBEE charter, it is indirectly a PPP requirement. If the BBBEE charter did not have this SME requirement, maybe it would not have been part of the PPP requirement. The main requirement for PPP projects is that the special purpose vehicle (SPV) should be BBBEE compliant. Therefore, the argument in this study is that, in addition to being BBBEE compliant, the PPP model should make SMEs' participation in PPP projects a permanent feature of the model. The SME requirement should apply to all SMEs regardless of who own them. The study also seeks to argue that the BBBEE requirement should then be complied with by all SMEs providing services to PPP projects.

As is argued in this study, a PPP collaboration that brings together the public sector, private sector and the SME sector can be more effective in fighting poverty, unemployment and inequality, which are the most worrying challenges faced by developing countries.

Below is a brief discussion on the infrastructure funding gap for Africa and South Africa. This funding gap highlights the potential that infrastructure has in addressing the main challenges of unemployment and poverty, should this funding gap be converted into opportunities for SMEs.

1.5 Infrastructure funding gap for Africa and South Africa

Despite all the achievements made in attracting private-sector investment in African infrastructure, challenges still remain in the continent. According to Foster and Briceno-Garmendia (2010:3) research's findings, in 2005 Africa's infrastructure (a) lagged well behind that of other developing countries, (b) infrastructure services were twice as expensive as elsewhere, (c) its institutional, regulatory and administrative reform process was only halfway, (d) energy was the largest infrastructure challenge by far, and (e) its infrastructure spending needs were estimated at US\$93 billion a year. However, after potential efficiency gains Africa's infrastructure funding gap decreased to US\$ 31 billion.

The African Development Bank (2009a:2) estimate is that from 2015 forward Africa will need about US\$80 billion of investment per year by both the public and the private sectors over the next decade for operation and maintenance in order to close the infrastructure gap if it is to achieve its growth target of 7% per year. However, half of the need is currently being met, while US\$20 billion of the gap can be met through improved efficiency and the gap decreases to US\$20billion. The same problems facing Africa are also faced by SADC as well as South Africa. Table1.1 shows Africa infrastructure needs by sector and Figure 1.1 shows infrastructure funding gaps by country group.

Although these infrastructure backlogs are considered to be a constraint for economic development, at the same time they present an opportunity for SMEs to work together with the private sector to facilitate sustainable development through PPP projects.

Table 1.1: Africa’s infrastructure needs (2009)

Infrastructure services	Percentage of population with infrastructure needs
Lack access to safe water	40%
Lack basic sanitation	60%
Lack access to electricity	70%
Without telephone penetration	88%
Without internet penetration	97%

Source: African Development Bank (AfDB), 2009a:1

Figure 1.1: Funding gaps by country group (USD\$ billions)



Source: Foster and Briceno-Garmendia (2010:75)

Table 1.1 and Figure 1.1 show clearly that a lot still needs to be done by African countries in order to achieve an acceptable level of infrastructure quantity and quality. The good thing about this challenge is that, while addressing the issue of infrastructure backlog using PPPs, countries can also turn this challenge into an opportunity to develop their SME sectors. This introduces a new perspective about infrastructure challenges in developing countries. That is, the challenges of developing countries can be converted into opportunities not only for the private sector, but also for the public sector to drive their broader socio-economic objectives. Currently, infrastructure backlogs and the use of PPPs to address these backlogs are being seen by both government and the private sector as presenting an opportunity only to the private sector to invest in infrastructure development. This perspective to infrastructure development needs to change. This study therefore aims to show how this perspective can be changed.

In South Africa, the monetary value of the required infrastructure in 2012 was estimated to be R3,5 trillion (Republic of South Africa. The Presidency, 2012b). This infrastructure financing requirement presents a good opportunity for the government to use PPPs to deliver the required projects, thus creating job opportunities through the involvement of SMEs in infrastructure delivery.

The above analysis shows the extent of SME opportunities in infrastructure development in the continent in general, and in South Africa in particular. The following section discusses the South African PPP projects that have reached financial closure since the establishment of the South African PPP unit in 2000.

1.6 Trends for South African PPP projects

This section focuses on South African PPP trends. It discusses projects that have reached financial closure since the establishment of the PPP Unit. It also discusses projects that are in preparation and are registered with the PPP Unit. The PPP projects discussed in this section exclude road PPPs; which are managed by the South African National Road Agency Limited (SANRAL, 2013), and data on these projects is not reported on by the PPP Unit. According to SANRAL, since its inception in 2008 it has awarded only three PPP concessions to date, namely N3 Heidelberg to Cedara (N3TC Concessionaire), N4 Maputo Corridor (TRAC Concessionaire) and N1/N4 platinum highway (Bakwena Concessionaire). However, SANRAL has a number of PPP projects that are not concessionaires, such as the Gauteng Road Improvement Project. Furthermore, there are a number of PPP projects that are undertaken by different government institutions but are not recorded under the PPP Unit data, and this calls for a change in which the country's data on PPP projects is being compiled.

Figure 1.2 shows the number of PPP projects that have reached financial closure since the establishment of the PPP Unit in 2000. The pattern covers the period 2000 to 2013. On average, the number of PPP projects that have reached financial closure has declined between 2003 and 2010 and there was no project that reached financial closure in 2005, 2008, 2011 and 2013, while only two projects reached financial closure in 2007, 2009 and 2010. The highest number of deals that reached financial closure happened in 2001 and 2003, where five projects reached financial closure in both years, followed by 2006 with four projects. There are a number of PPP projects that have reached financial closure in the ports sector, but are not recorded in the PPP Unit database, and some prison PPP projects are not recorded in the PPP Unit data, and that leads to under-representation of PPP data in the

country. There is no doubt that there are PPP projects that reached financial closure after 2012, however these statistics are not available.

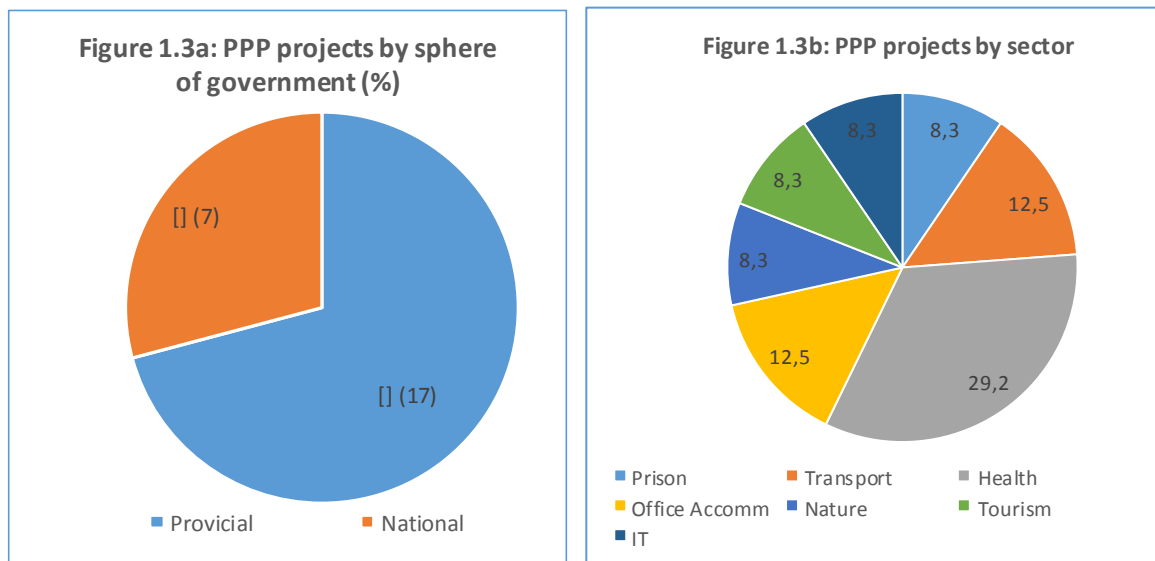
Figure 1.2: Number of projects that have reached financial closure (2000-2013)



Source: Republic of South Africa. National Treasury (2013)

The trend in the number of PPPs that have reached financial closure has been declining over the years. Figure 1.3 below shows PPP projects by sector and sphere of government. According to data published by the PPP Unit, there are no municipal PPP projects that have reached financial closure since 2000. This might not be a true reflection of the PPP market in the country. It is possible that some municipal PPP projects are aggregated together with the provincial PPPs or that data on municipal PPPs is not properly recorded by the National Treasury. The lack of municipal PPP projects that have reached financial closure as per the PPP Unit's quarterly reports (2000–2014) might be due to poor data recording. The figure shows the share of provincial and national government PPP projects that have reached financial closure in the past ten years. The most popular projects are health-related projects, followed by transport, then office accommodation projects.

Figure 1.3: PPP projects by sphere of government and by sector (2003-2013)



Source: Republic of South Africa. National Treasury (2013)

The high number of health-related projects is not surprising, given the government’s drive to improve conditions in public hospitals (Republic of South Africa. The Presidency 2012b:22). The government has identified PPPs as one of the vehicles that will play a significant role in improving conditions in public hospitals.

Table 1.2 shows projects that are in the pipeline and are registered with the PPP Unit. These projects are categorised by sector and sphere of government. They are either at procurement stage, under review, or at feasibility study stage or inception stage. It is difficult to precisely categorise these projects by sector, as some of them are not clear cut as to which sector they belong to.

As can be seen from Table 1.2, the majority of these projects are national projects, followed by provincial and then municipal projects. The number of health projects is the highest, followed by water/waste management and then office accommodation.

These projects resemble the same trend observed with projects that have reached financial closure. Health-related projects dominate the PPP market, followed by office accommodation. The question that one should ask at this stage is what role SMEs can play in the above PPP projects.

Table 1.2: PPP projects by sector and sphere of government

Sector	National	Provincial	Municipalities	Total
Real estate	0	0	5	5
Prison	1	0	0	1
Transport	1	0	0	1
Health	4	14	0	18
IT	2	0	0	2
Office accommodation	8	4	1	13
Education	0	1	0	1
Nature	9	3	0	12
Tourism	0	3	5	8
Communication	1	0	1	2
Energy	1	1	0	2
Water/waste management	2	0	11	13
Total	29	26	23	78

Source: Republic of South Africa. National Treasury (2013)

Given the number of PPP projects in the country and some others that are not recorded by the National Treasury, especially those that are being implemented by State-Owned Enterprises (SOE), such as ESKOM and Transnet, present a huge opportunity for the country to make an impact in terms of developing a sustainable SME sector that would in turn create jobs and reduce poverty levels.

1.7 Why use PPPs to create jobs through SMEs?

The argument for using PPPs to create jobs does not mean that the existing initiatives by government are not recommended or should be replaced by the PPP approach. However, what this study advocates is that, in addition to the existing government initiatives designed to develop the SME sector, countries should also take advantage of the growing PPP market that has a potential to develop the SME sector while at the same time addressing the challenge of infrastructure backlogs. The advantage of using PPPs instead of the traditional infrastructure procurement

approach and in addition to other governments' initiatives to create jobs through the development of the SME sector is that:

- PPPs bring the public and the private sectors together for one purpose, which is to deliver an infrastructure asset. Bringing the private and the public sectors together is difficult through the traditional approach, as the two parties come into the relationship with different interests. Bringing the two parties together has some economies of scale for SMEs, the private sector and the public sector partner,
- In some instances, the private sector party or partner/concessionaire/ PPP firm in a PPP project funds projects that would have not been funded by the public sector due to lack of resources. In this case, the private sector partner makes money available for infrastructure projects that would have not been constructed had the private sector partner not funded the PPP project, thus creating opportunities that would have not been there for SMEs,
- The private sector partner in a PPP project possesses technological know-how and is efficient in the use of limited resources. If SMEs are involved in a PPP project, such technological know-how and efficiencies would cross-pollinate SMEs; thus improving the competitiveness of SMEs in local and sometimes international markets and create even more job opportunities for the unemployed in the local economy, and,
- Involving the private sector in financing infrastructure projects through a PPP arrangement increases the available funds for infrastructure projects; thus increasing the number of infrastructure projects to be built within a short space of time, which may in turn lead to more opportunities for SMEs and job creation (Figure 1.1 shows the traditional PPP model).

1.8 Reasons for the research

In justifying this research, it is important to know that a wide search of related topics within the current literature did not yield significant results on the participation of SMEs in PPP projects. Although the South African government's PPP regulations mention the use of SMEs in PPP projects, this arrangement is informal, as there is no policy that compels or forces PPPs to use the services of SMEs other than the

requirement that PPP projects must have a BBBEE ownership, which happens in most cases to involve SMEs.

Also a search of a number of databases for theses and dissertations did not yield results on the topic. No reference to developing countries, in particular to African theses and dissertations on the same topic was obtained, and no exact match could be found. Most of the research work done on PPPs is on how governments can make use of private sector finances and skills to deliver public infrastructure projects with minimum project risk carried by the public sector.

1.9 Problem statement

Despite the positive role that SMEs play in an economy and the potential that PPP projects have in converting developing countries' infrastructure backlogs into socio-economic opportunities such as job creation and reducing inequality, there has been not enough effort by developing countries to use PPP projects to develop their SME sectors. In countries where there is a high unemployment rate, high infrastructure backlogs and low SME penetration rate, PPP models such as the traditional PPP model should be developed such that they convert these countries' infrastructure backlogs into job-creating opportunities. One way of doing that is to view infrastructure backlog as an opportunity to develop an SME sector that will in turn create jobs.

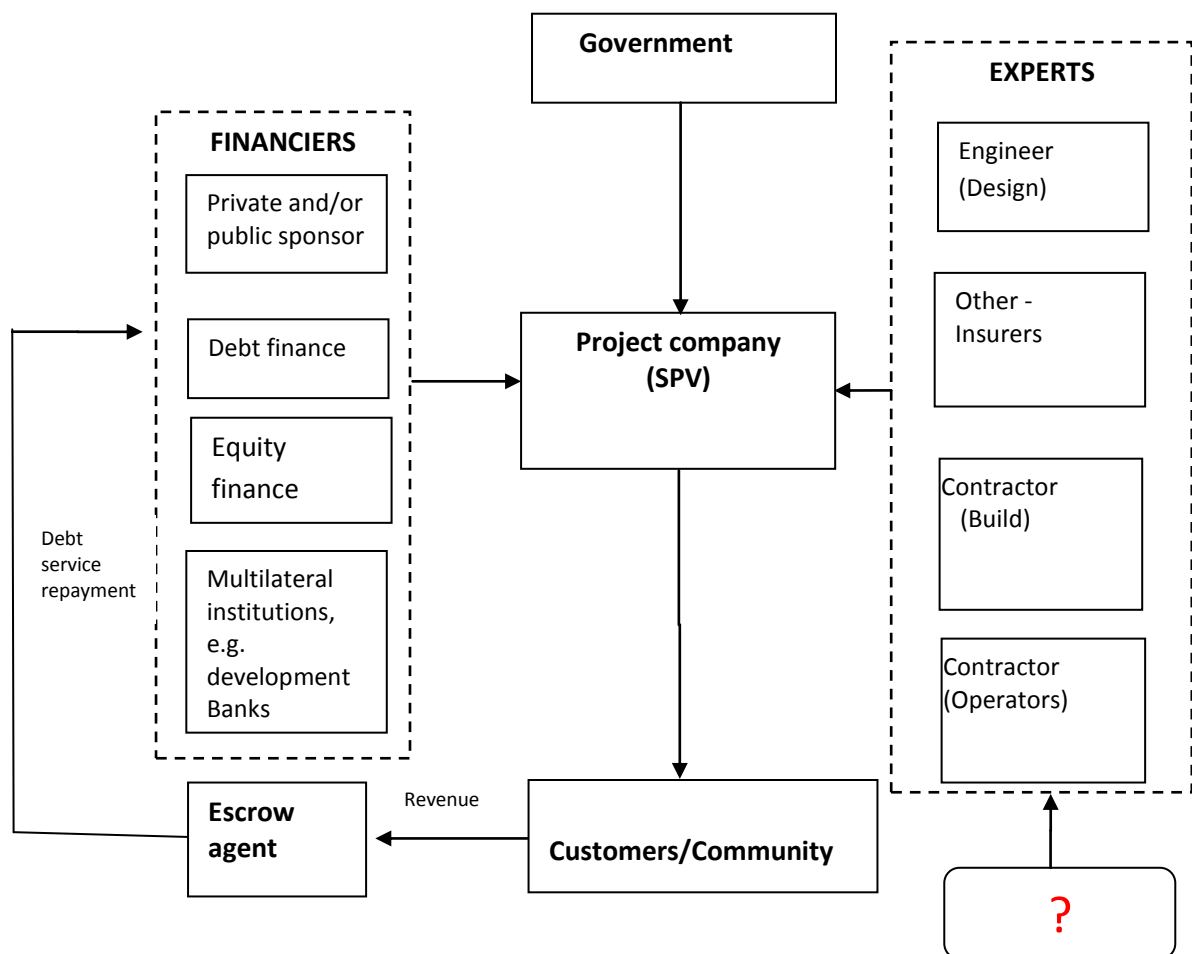
The traditional PPP model focuses mainly on developing infrastructure assets, creating good value for money and the transfer of risks to the private party (Republic of South Africa. National Treasury, 2004b:4). This model does not give priority to other challenges that may be imperative for developing countries, such as SMEs development and job creation. Although currently SMEs participate in PPP projects, the current South African PPP model does not compel the private sector party to use SMEs to provide goods and services to PPP projects, and that undermines the potential that PPP projects have in creating jobs and reducing poverty and inequality. The private sector party can choose either to use or not to use SMEs in PPPs, and there are no consequences or disincentives for the private sector partner for not involving SMEs in PPP projects. This is because this requirement plays an

insignificant role on whether the private party is awarded a PPP contract or not, as there are other requirements that are considered more important than the SMEs' requirement for a PPP project.

1.10 Focus of this study

The focus of this study is on the experts' component of the PPP model. This is because the researcher believes that there are more SME opportunities within this component compared to the other components. However, this does not mean that there may not be opportunities for SMEs within the financiers and the SPV components. Such opportunities can be explored in future research studies. Figure 1.4 represents the current traditional PPP model and it shows the focus of this study as indicated by the red question mark.

Figure 1.4: Traditional PPP model



Source: Japan External Trade Organisation (JETRO) (2010:14) and United Nations (2011)

Although the current South African PPP model (see Annexure F (a)) mentions the use of SMEs in PPPs, it does not fully acknowledge that PPP projects can be used by developing countries to address challenges such as unemployment, poverty and inequality. Table 1.3 gives a summary of the different functions of each of the role players within the traditional PPP model.

Table 1.3: The role players in a traditional PPP model

Role player	Function
Project company (SPV)	The SPV is a legal entity that enables the coming together of many different parties and facilitates the allocation and diversification of risk and financing requirements to more than one party. It oversees the implementation of the project from the start to the finish. It deals with all contractual agreements between the various parties and itself. The SPV is a key feature of PPPs. It is normally set up by the private sponsors to represent their interest and those of the public sector.
Government	The government's interest in a PPP project is from the fact that government is the initiator of the PPP project. As per PPP definitions, PPPs are a partnership between the public and the private sector. Therefore, a strong commitment on the part of government is key to the success of a PPP. If government has also contributed equity to the project in exchange for shares in the SPV, it has equal rights and equivalent interests to the asset within the SPV as other shareholders.
Financiers	A PPP project is financed from different sources, such as debt and equity, the sources and structure of which vary depending on the project. In many cases, the equity financing is provided by the private sponsors in exchange for ownership in the SPV. If the equity from the private sponsors does not cover all the project costs, as is normally the case, the balance is provided using project finance. Project financing is based on the financial strength of the project with little or no recourse back to the sponsors. In the case where project finance is used, the SPV borrows the funds, and the debt is paid back using the cash flow generated from the project.
Experts	The structure of the PPP project helps facilitate the cooperation and allocation of resources and risks among those who are able to manage it. The SPV may ask the private sector to provide different expertise to the development of the project. This expertise may range from designing, building, and/or operating a project. They may also provide for insurance to the different risks associated with the project.
Customers	Customers may include motorists using a toll road, a community benefiting from a water project, power plant, etc. It is imperative to identify these groups as accurate as possible in order to be able to assess to who will be paying for the services, how they are to benefit, and what their success criteria are.
Escrow Agent	An escrow account is an account that is set up, usually at the request of financiers and managed by a third party in order to safeguard project revenues for the purpose of ensuring that debt service obligations are met. An escrow account can also be used to hold a deposit in trust until certain specified conditions have been met.

Source: *United Nations (2011)*

A PPP model that aims at facilitating sustainable development of the SME sector should first recognise the above shortcomings of the current PPP model. Therefore the study argues that SMEs' opportunities in PPP projects can be enhanced, especially within the experts component of the traditional PPP model. **Annexure F (a)** shows the South African version of the traditional PPP model. All the components of the model are the same as explained in Table 1.3 above. The red question marks indicate the focus of the study.

1.11 Purpose and objective of the research

The purpose of this research is to utilise available knowledge and insight into defining the potential role of PPPs and the concept of innovative PPPs for sustainable SMEs development. It also aims at providing an innovative conceptual PPP model for sustainable SMEs development that can be utilised by the South African public sector with the potential to be used by other developing countries to reduce their unemployment, poverty and inequality challenges. The objective of this study is to answer the main research question and its sub-question as stated in section 1.12 with the aim of developing an innovative conceptual PPP model for SMEs development.

1.12 Research objective

The main objective of the study is to develop an innovative conceptual PPP model for sustainable SMEs development and to determine the potential role of PPPs in the South African economy.

1.13 Research questions

The research question for this study is: "How can the South African government use PPP projects to develop its SME sectors?" Hence, the main research sub-questions (MRQs) for this study are:

Main research sub-questions

MRQI: *How PPP projects in the country have helped SME development?*

MRQII: *What are the problems or challenges faced by PPP project firms when using SMEs to supply services?*

MRQIII: *How can the involvement of SMEs be increased in PPP projects?*

MRQIV: *Does an appropriate PPP model for increasing the participation of SMEs in PPP projects exist that can respond to the South African economic challenges?*

1.14 Research methods

The research methodology or approach for this study is a mixed-method research approach. The approach followed involved desktop research (literature review), questionnaire design, testing of the questionnaire, data collection, data analysis and the development of an innovative PPP model for SME development. The information collected through the survey was supplemented by other publicly available information collected from different secondary sources, e.g. South African PPP case studies, published PPP information in the PPP Unit's website. This allowed for triangulation of data from these sources.

1.15 Demarcation of the study

Although the current range of PPP models were used as inputs into the study, the study only focused on PPP projects that are within the borders of the Republic of South Africa. Its main focus was on infrastructure PPPs implemented in the different economic sectors. It excluded other PPPs such as institutional PPP programmes, although these types of PPPs are discussed with the view of obtaining information on how they can be utilised to support SMEs involved in PPP projects.

The study focused only on PPP projects implemented in the country that had operated for at least a year. PPP projects that were in operation for less than one year were not included in the sample. This was done in order to allow the researcher to collect information based on practical experiences on involving SMEs in PPP

projects during the construction/implementation as well as during the operational/application phases of PPPs. The data collected covered PPP projects from the main sectors that had implemented PPP projects in South Africa, such as roads, office blocks, prisons, hospitals, health, water PPP projects and conservation PPPs.

1.16 The importance and contribution of the study

The contribution of this research is focused on the development of an innovative conceptual PPP model for sustainable development of the SME sector. PPP models implemented in both developed and developing countries have overlooked or ignored the fact that PPPs have the potential to develop a sustainable SME sector in developing countries, thus creating jobs and reducing poverty, which are the biggest challenges for these countries.

The outcome of the research could be used by PPP practitioners and government agencies involved in PPPs to improve the benefits that PPP projects can render to developing countries. Furthermore, the model aims at challenging the traditional PPP model being implemented by developing countries and it necessitates PPP policy changes that will make SMEs participation in PPP projects mandatory.

1.17 Limitations of the study

There are several limitations to this study, the most significant of which is related to the size of the sample used in the investigations, given the fact that, at the time when the study was conducted, there were few PPP projects that had reached financial closure and had operated for at least a year.

The second limitation of the study relates to the respondents interviewed. Given the high rate of staff turnover in the organisations or entities responsible for the implementation of PPP projects, some of the potential respondents who were involved in the different PPP projects from inception had left their respective organisations during the study period, and this resulted in the researcher having to collect data from some personnel who joined the entities at a later stage of the

implementation of the PPP projects. However, the people who responded on the questionnaire had experience in PPP projects, since the majority of them worked in a PPP project either in the private or public sector.

The third limitation is the nature of information collected from SMEs, PPP project firms and government departments or agencies. In most cases, information on PPP projects was confidential, such that some potential respondents refused to participate in the survey due to the sensitivity of PPP projects at the time of data collection. This was because there were objections on roads PPP projects around the country, therefore potential respondents were reluctant to provide some information to any person outside their organisations before their current employment.

1.18 Chapter overview

Following below is a brief summary of what each chapter covered.

Chapter 1: The first chapter covered the introduction and the definition of public-private partnership projects, the reason for the study, the problem statement, research question(s), the purpose of the study, the study objective, the research method, and limitations/demarcations of the study, the importance and contribution of the study.

Chapter 2: This chapter (Theory and Practice) consists of two parts. The first part covers a discussion on the economics of PPPs and the rationale for PPPs in providing public infrastructure. The second part of the chapter discusses the institutional arrangement necessary for public-private partnerships.

Chapter 3: This chapter discusses the importance of PPPs in developing a sustainable SME sector. It discusses the role of the SME sector in an economy and the challenges faced by SMEs in developing countries..

Chapter 4: The chapter focuses on the research methodology. It sets out to study, investigate, measure and analyse all aspects of the research questions and states

the research propositions based on the research questions. The demarcation and nature of the study is given and the rationale behind the chosen methodology is discussed. It discusses different types of models and identifies the type of model suitable for this study.

Chapter 5: This chapter presents the research findings presentation. It provides all results obtained from the relevant organisations and respondents during the study survey.

Chapter 6: This chapter analyses and synthesises the survey findings presented in Chapter 5 to establish whether the data respond to the research questions and research propositions.

Chapter 7: This chapter focuses on the development of the proposed PPP model for a sustainable SME sector. It presents the proposed model developed based on the results of the survey as discussed in Chapters 5 and 6.

Chapter 8: This chapter gives the study conclusion and recommendations. The conclusion is evaluated against the original problem statement—answering research questions and research objectives.

CHAPTER 2: PUBLIC-PRIVATE PARTNERSHIP: THEORY AND PRACTICE

2.1 Introduction

Chapter 1 examined the role of infrastructure in economic development and the new developments in financing infrastructure. It discussed the global demands that have somewhat compelled governments to engage PPPs in service delivery. It briefly discussed the relationship between public-private partnerships (PPPs) and SME development. Furthermore, the chapter looked at the main PPP projects implemented in South Africa since the inception of the PPP Unit in 2000.

This chapter is therefore divided into two parts. The first part discusses the economics of PPPs and the second part discusses the institutional arrangements required for a successful implementation of a PPP programme. Since the study is about the potential impact of PPPs on SME development, it is therefore imperative to first discuss the nature and characteristics of PPPs to have a clear understanding of what PPPs are and what the factors are that affect a viable PPP market. A viable PPP market is important for SME development because the argument in this study is that, for SMEs to create the needed jobs through PPPs, there must be a well-functioning PPP market that grows over time to create more opportunities for SMEs. However, the growth of the PPP market is affected by a number of regulatory factors; hence the second part of this chapter discusses the different institutional arrangements required for the development of a PPP market.

2.2 Public-private partnerships (PPPs)

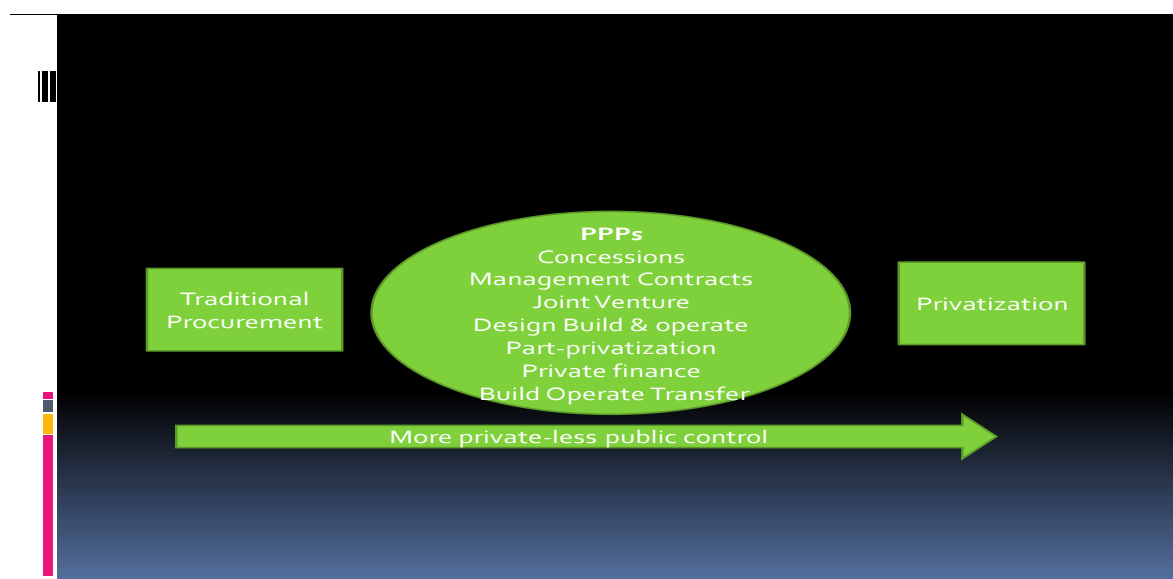
The participation of the private sector in infrastructure delivery has been referred to in different ways. According to Farrugia and Orr (2008:5), private participation in infrastructure is sometimes referred to as “private finance initiative (PFI), public-private partnerships (PPP), P3, alternative financing and procurement (AFP) or performance-based infrastructure”. For the purpose of this study, the term “public-private partnership” (PPP) is used to encompass all the above different PPP terms. According to De Bettignies and Ross (2004:136):

“... the term public private partnership is used in slightly different ways with the result that a precise definition to which all will agree is elusive”.

The term PPP covers a range of different structures that can be used to deliver a project or service. According to Grimsey and Lewis (2005:xiv), PPPs are arrangements whereby private parties participate in, or provide support for, the provision of infrastructure, and a PPP project results in a contract for a private entity to deliver public infrastructure-based services. Arrangements that do not involve any major new capital investment or upgrading of assets are not considered to be PPPs for the purpose of this study, as such arrangements do not have or create opportunities for the participation of SMEs.

Public services can be delivered through a spectrum of partnership models. On the one hand, the public sector retains almost all responsibilities in the partnership and carries all the risks associated with the project. On the other hand, the private sector carries all the risks and responsibilities associated with the project. PPP projects therefore fall into the middle of the spectrum, between the public sector and its private partner according to their strength and weaknesses. Figure 2.1 below illustrates exactly where PPPs fall within the different service delivery mechanisms.

Figure 2.1: Traditional procurement, PPPs and privatisation



Source: PriceWaterhouseCoopers, 2004:10

As shown in Figure 2.1, the further you move right from the traditional procurement, the more private involvement or control you see in the project, and PPPs sit right in the middle of the figure, that is between traditional or public procurement and privatisation. From the above definitions it can be deduced that it is expected of PPPs to deliver high-quality services by taking advantage of the fact that in such arrangements one can draw from the best of the public and private sectors. Indeed, according to Binza (2008:300), at the heart of every successful project is the concept that better value for money² may be achieved through the exploration of private-sector competencies and the allocation of risk to the party best able to manage it. Closer to home and in line with the definition above, the Republic of South Africa's National Treasury (2004a:4) defines a PPP as:

“... a contract between a public-sector institution and/or municipality and a private party, in which the private party assumes substantial financial, technical and operational risk in the design, financing, building and operation of a project”.

This definition is similar to the definitions discussed above. For a project to be called a PPP, the National Treasury expects it to meet three conditions, namely (i) it must be affordable, (ii) it must provide good value-for-money and (iii) it must transfer appropriate technical, operational and financial risk to the private party.

The South African National Treasury (Republic of South Africa. National Treasury, 2004a:5) refers to two types of PPPs. The first type is whereby the private party performs a function usually carried out by government, such as providing water or maintaining a road. The second type is whereby the private party acquires the use of state property for its own commercial purposes, or a hybrid of the two. Within the first type of PPPs, international literature (Yescombe, 2007:13) identifies two different forms of PPPs, namely Availability-based PPP and Concession PPP. The concession PPP is an arrangement between the public authority and the private party whereby the public authority grants the private party the right to design, build,

²Value for Money will be discussed in later chapters of the document.

finance and operate an infrastructure asset owned by the public sector. The private party recovers its investment, operating and financing costs and its profit by charging members of the public a user charge. The key characteristic of a concession is that the private party usually assumes demand risk for use of the asset, in addition to the risk of design, finance, construct, and operation. Good examples of concessions in South Africa are the N4 and the N3 toll roads. Within the concession model there are a number of PPP schemes, as shown in Table 2.1.

The availability-based PPP is similar to a concession in that it involves the private party in designing, financing, building or rebuilding, and subsequently operating and maintaining the infrastructure. However, in this case, the public authority makes payments to the private party for making the public service available to consumers. The demand or usage risk remains with the public authority. This type of PPP is more common in power generation projects.

Dowdeswell and Heasman (2004:3); Bojovic (2006); Binza (2008:301); Maluleka (2008:66) and the German Economic Team (GET) (2007:2) identify a number of PPP schemes within the concession PPP type that are commonly used globally. Table 2.1 gives a brief description of each of these schemes.

Table 2.1: Public-Private Partnership schemes

Service contract	Modalities
Service contracts	The private party procures, operates and maintains an asset for a short period of time. The public sector bears financial and management risks.
Operation and management contract	The private sector operates and manages a publicly owned asset. Revenues for the private party are linked to performance targets. The public sector bears the financial and investment risks.
Leasing-type contracts Buy-build-operate (BBO) Lease-develop-operate (LDO) Wrap-around addition (WAA)	The private sector buys or leases an existing asset from the government, renovates, modernises, and/or expands it, and then operates the asset, with no obligation to transfer ownership back to the government.
Build-operate-transfer (BOT) Build-own-operate-transfer (BOOT) Build-rent-own-transfer (BROT) Build-lease-operate-transfer (BLOT) Build-operate-transfer (BOT)	The private sector designs and builds an asset, operates it and then transfers it to the government when the operating contract ends, or at some other pre-specified time. The private partner may subsequently rent or lease the asset from the government.

<p>Design-build-finance-operate (DBFO)</p> <ul style="list-style-type: none"> Build-own-operate (BOO) Build-develop-operate (BDO) Design-construct-manage-finance (DCMF) 	<p>The private sector designs, builds, owns, develops, operates, and manages an asset with no obligation to transfer ownership to the government. These are variants of design-build-finance-operate (DBFO) schemes</p>
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Source: Compiled from different sources.

In most cases international literature refers to these types of PPPs as concession PPPs. From the definitions above it can be concluded that a PPP is an arrangement whereby private parties participate in or provide support for the provision of an infrastructure-based service, and a PPP project results in a contract for a private entity to deliver a public infrastructure-based service.

2.3 The economics of public-private partnerships

The involvement of the private sector in public infrastructure delivery comes with challenges. The challenges result mainly from the conflicting goals or objectives of the two parties when entering into a partnership. Those who support the use of PPPs to deliver public services argue that PPPs are necessary because they (1) close the gap between what the government can afford and what needs to be provided to the citizens, (2) provide services at lower costs compared to the public and (3) transfer project risks to the private sector (Allan, 1999:5; Bojovic 2006:305; Hodge and Greve, 2005:184). Those who argue against PPPs assert that PPPs are complicated and anticompetitive, that they lower standards of employment by converting fulltime employments into contracts/temporary employment and reduce staff benefits, to mention a few. They further argue that the private sector has a different objective than the public sector and that makes it difficult for the public sector to reap the potential benefits that PPPs may offer, due to the fact that public sector employees lack the necessary skills to manage PPP projects (Corry, 2004:30, Bovaird, 2004:239, Domberger and Jensen, 1997:76; Fountain, 1980:809).

Below is a discussion on the advantages and disadvantages of contracting-out as the foundation of PPPs.

2.3.1 Contracting-out: The foundation of PPPs

Traditionally, the construction of any project was a task delegated to the private sector while government would retain tasks such as maintenance, repairs and operation of the facility (De Bettignies and Ross, 2004:138). This means that the private sector has always been involved in the provision of public services in one way or another. The only new development that has taken place in recent years is that a larger number of tasks (such as operation and maintenance of the infrastructure) that used to be the responsibility of the public sector are now bundled together and contracted to the private sector under one contract. This is what PPPs are all about. Under PPPs the private sector is carrying bigger responsibilities than the public sector compared to when the traditional procurement method is used to procure infrastructure. Following below is a discussion on the benefits of contracting-out.

Benefits of contracting out: PPP proponents argue that contracting with the private sector results in reduced service costs and provides superior levels of service relative to public provision. They give a number of reasons for this argument. Their argument is based on *ex ante* competition, high-powered incentives, optimal risk allocation and economies of scale.

(i) Ex ante competition: Economists believe that the key reason behind the success of contracting out at reducing costs, particularly in a PPP project, is competition (Tirole, 2007:25). This competition refers to competition for the market and not in the market. This is because the bidding process forces bidders to lower costs, raise quality and increase innovation (Reeves, 2004:381). This is because competition for the market disciplines the incumbent firm to be more effective. However, this assumes that collusive tendering is prevented, as it may result in high prices for the services being outsourced. It is worth noting that *ex ante* competition may not yield the expected results if there is not enough competition for the market. For example, in many cases PPP projects are undertaken by a few big construction companies that possess the technological know-how and a strong balance sheet needed to construct a PPP project (Domberger and Jensen, 1997:71). In many

cases, small firms or SMEs are unable to compete with such companies because they normally lack both technological know-how and finances to undertake PPP projects (Bloomfield, 2006:402). Unbundling of PPP projects to smaller but viable projects may assist in increasing participation of construction SMEs in PPP projects, thus creating *ex ante* competition.

(ii) High incentives and optimal risk allocation: Risk allocation is an important element in the economics of PPPs. For a project to be regarded as a PPP in South Africa and in Ireland, the project should be able to transfer appropriate technical, operational and financial risk to the private party (Republic of South Africa. National Treasury, 2004a:5; Reeves, 2004:384). The second reason for contracting-out in reducing costs is believed to be incentive-related. The incentive to reduce costs comes from the fact that the private sector is a profit maximising agent. In order for it to make good profit it has to reduce production costs to the lowest level possible. This is because the private sector is believed to have the capacity to deliver more innovative products more speedily, with more flexibility and at a lower cost because of its experience and the fact that it is more productive-efficient than the public sector (Schmidt, 1996:4).

An empirical study by Boardman, Laurin, Moore & Vining (2009:59) found that the privatisation of the Canadian National Railways generated welfare gains of about \$15 billion. The Canadian national government captured almost half of these gains while the rest were captured by the shareholders. Consumers did not benefit from these gains, since prices did not fall as a result of the surplus created. This shows that the benefits gained were not enjoyed by consumers and this shows the need for an independent regulator that will have consumers' interest in PPP projects.

Having discussed the benefits of contracting out, the following section discusses in detail the economics of delegating design and operation of the project to the private contractor when a PPP model is employed.

2.3.2 Delegating design and/or operation to the private firm

Private sector firms benefit from economies of scale, scope or learning because they are normally more specialised, larger in size and have more experience in the construction and operation of a construction business compared to the public sector. Under the conventional service delivery the government designs, finances and contracts another party to construct the asset on its behalf. Once the asset has been constructed the public sector will then operate and maintain it. Under this approach it can be argued that the facility can be built so as to require higher or lower maintenance, depending on the construction company. It is likely that the construction firm bidding to construct the facility will not advocate for more durable and expensive construction if it will not be responsible for operation and maintenance of the asset once it has been built. This may be motivated by the fact that the construction firm would want to appear as providing the construction service at a lower cost compared to other competitors, so that it can win the contract to construct the facility (International Monetary Fund, 2004:11).

However, in a case where the constructor is also expected to operate the facility (PPP model), its behaviour changes. In this case it would have an incentive to propose a more durable design of the facility in order to minimise the costs associated with providing the service over the full life of the facility or at least the length of the contract. As De Bettignies and Ross (2004:144) assert, it is clear that there is technological complementarity or economies of scope between building and designing, and between building and service provision. These complementarities are enhanced by the incentive advantages of combining these tasks. This approach forces bidders to focus on the total life costs of the project over the project life cycle because those responsible for building the asset would also be responsible for the long-term maintenance and operation of the asset. In a case where the constructor is also expected to provide services (bundling) it gives a compelling justification for combining asset creation and operation, which is the defining feature of a typical PPP (International Monetary Fund, 2004b:11). Conventional delivery does not have this advantage, and therefore the payment made by government to induce high quality may be higher with conventional delivery (De Bettignies and Ross, 2004:144).

Fostering the use of SMEs in PPP projects can also benefit the economy, given the expertise that the private sector has. The private sector may suggest some innovative ways in which SMEs can participate in PPP projects without compromising the viability of the project.

The following section discusses the differing views about the costs and benefits of the PPP approach to infrastructure procurement.

2.4 The costs and benefits of public-private partnerships

According to Vining and Boardman (2006:3), the rationale for governments to undertake PPPs can be summarised into three broad categories, namely: (a) minimisation of on-budget government expenditure or desire not to increase current government debt (b) to deliver both infrastructure and services at a lower cost due to economies of scale, more experience, better incentives and greater ability to innovate, and (c) PPPs makes it easy for the public sector to impose user fees, resulting in lower net expenditure for government.

Some economists argue against using the private sector to deliver public services. Their arguments centre around the fact that PPPs are equal to privatisation, are more costly than traditional procurement, are a way for government to avoid reporting debt, are weak in accountability and transparency, lead to public-sector jobs losses, costly, lack flexibility, lack of control by the state and that private companies sacrifice quality for the sake of profits (McDavid and Clemens, 1995:188). PPP proponents assert that those who argue against PPPs tend to over-simplify matters or tell only part of the story. What follows below is a detailed discussion on the costs and benefits of PPP projects.

2.4.1 Do PPPs minimise on-budget government expenditure?

PPP opponents argue that government's plans in involving the private sector in infrastructure delivery is to eliminate upfront capital expenditure and keep capital expenditure off the government's official balance sheet to provide budget stability. This often carries some political benefits because government budget will always

appear healthy in the face of the voters, while a significant amount of tax is used for PPP projects (Vining and Boardman, 2006:3). This may be true in a case where the government finances the project, however, many PPP projects are funded by the private party and in such a case this argument does not apply.

The risk of not recording PPP projects in government's balance sheets may be that an increase in government's contribution to the project can also affect other government expenditures which are more important than the PPP project, and government may not be held accountable for that, as there will be no information available to the public that can be used to challenge the increases. A good example of this is the increased costs of the Gautrain project which forced the government to increase its contribution to about R19 billion in a PPP project of R26 billion. There is no doubt that this affected government budget expenditure to a greater extent. For accountability purposes all budget expenditures should be reflected on the government's balance sheet. The failure of governments to record PPP projects' liabilities in government balance sheets distorts the representation of government's fiscal health (TD Economics, 2006:14). Vining, Boardman & Poschmann, (2004:34) argue that PPPs conceal government debt. The argument here is that PPPs cannot be considered for their potential to generate value for money, but merely as a remedy for cash-strapped governments. Therefore arguments against PPPs on the basis of lack of accountability and transparency are valid only if the PPP projects are funded by the state.

A strong argument about engaging the private sector is the desire to avoid up-front capital costs, as it is easier to raise private capital than additional tax revenue or government loans (Vining *et al.*, 2004:34). If government does not have the money to construct the project or provide the service to consumers and the private sector does not finance or provide the infrastructure at the time when it is required, there would be an opportunity cost involved in the economy as a whole. It makes economic sense to have the project or service provided by the private sector rather than not having it at all. When the private firm takes responsibility for non-core functions of the public sector, it frees up resources and helps government to focus on what matters, for example on the effective implementation of public policy. In this case,

minimisation of on-budget government expenditure is a weak argument for using PPPs while the opportunity cost, intergenerational efficiency and distributional arguments make a strong economic case for engaging PPPs. It is worth noting that other countries such as South Africa do record all costs related to PPP projects in their Medium-Term Expenditure Framework (MTEF) (Republic of South Africa. National Treasury, 2007).

2.4.2 Do PPPs provide services at lower cost?

There are three dimensions to this cost-superiority argument. The first dimension refers to the major argument that private-sector firms have economies of scale, scope or learning because they are normally more specialised, larger in size and have more experience in the construction and operation of a construction business compared to the public sector, which normally engages in much more diverse projects and usually has less experience with the relevant technology or activity (Bloomfield, 2006:401). Larger private firms also engage in more similar projects which are global in scope, and this helps them to utilise learning economics, specialised knowledge accumulated through learning. This is not the case with most governments, especially sub-national governments, which engage in a limited number of projects. These projects are also different in nature, thus not allowing enough learning and scope economics advantage (Vining *et al.* 2004:34). Lapre and Van Wassenhove (2003:53) articulates that:

“... early empirical studies showed that the logarithm of unit cost decreased with the logarithm of cumulative number of units produced at a uniform rate—the learning rate”.

This shows that the more a private firm produces a certain service, the more it benefits from learning economics.

The second dimension is that the private sector normally has superior incentives to minimise costs, holding constant any scale, scope or learning effects. Because of the cost-reduction profit incentives, the private sector may have more cost-efficient operations, including procurement policies, and better project management skills as

well as risk management expertise. It is also likely to have low wage-costs, possibly due to hiring non-union labour. The third dimension is that private firms have superior incentives (such as share options and bonuses) to engage in cost-reducing innovation as a result of continuous research and learning at the same time (Vining *et al.*, 2004:34). This dimension relates to the fact that the private sector has a greater incentive to invest in cost-reduction measures *ex ante* in order to provide the service at a lower cost that will lead to higher profits. It is worth noting that such cost advantages might not be true in all circumstances, as some government departments may be more efficient than some private firms. However, SMEs working together with PPP firms are more likely to benefit from the private sector's efficiencies, thus developing a competitive SME sector.

Such cost advantages are also more likely to arise as a result of bundling up the various components of a project and transferring them to a single contracting party. As mentioned earlier, this forces the private firm to focus on the total life-cost of the asset over the project life cycle. As a result, the private sector will develop more cost-efficient operational approaches, such as good procurement policies and project management skills (Gabriel and Head, 2005:29). A literature review of empirical analysis carried out by Domberger and Rimmer (1994:69) of about twenty studies that looked at competitive tendering and contracting (CTC) supported this view, concluding that there is broad consensus that CTC leads to a substantial reduction in service costs (Globerman and Vining, 1996:579). Although opponents of CTC argue that the observed cost savings are a result of decreased service quality, evidence for this argument is far from conclusive. Much of the existing evidence on this issue is ambiguous or contradictory (King, 2001:4).

The above argument may be true only if one considers the financial benefits and not the overall economic benefits that also take into account project externalities. This is true because the efficiencies in operations may lead to a reduction in implementation time, leading to lower project costs and higher profits for the private firm. Studies conducted in the United Kingdom and Australia for different years confirmed these efficiencies. They revealed that the magnitude of costs savings are around 22% on average, and approximately 80% of all PPP projects are delivered on time (see

Gabriel and Head, 2005:32; Domberger and Jensen, 1997:74, Boardman *et al.*, 2009:75; King, 2001:3). These studies support the private-sector efficiency argument based only on financial benefits. However, recent studies on the cost savings of PPP projects have disputed the above findings and pointed out that these studies ignored transaction costs in their analysis. When transaction costs are taken into account the savings even decrease further (Domberger and Rimmer, 1994:67). These cost savings can also decrease further if government's costs of administering the tender are also taken into account.

Many arguments for, or against, PPPs also fail to take into account that once a service is provided by a private firm there are a lot of changes that take place, which make it difficult to compare efficiencies before and after a private provision of services. In line with Domberger and Jensen's argument (1997:72), public-sector accounting methods rarely capture the full economic costs of service provision. Moreover, and the fact that contracting brings with it changes in specification of service requirements and quality, comparing the price of a new private-sector service contract with the historical costs of public provision may be misleading, as similar costs are normally not available with the public sector.

2.4.3 Does the public sector borrow at lower costs than the private sector?

PPP opponents argue that PPPs come with a higher price tag compared to traditional procurement. However, PPP proponents disagree with this argument and assert that such statements are based on three convictions that do not hold water when tested against economic principles. The first conviction is that the public sector can always borrow at a cheaper rate than the private sector. This is true, given the fact that government borrowing is backed by tax revenue and is considered to be risk free. This leads to low government borrowing costs compared to private-sector borrowing. It is also due to the fact that government bonds carry a lower interest rate than corporate bonds (Klein, 1996:3).

This argument is challenged by Currie (2000:15), and he argues that when a project is funded by the private sector, investors carry the risk of default and are rewarded accordingly. However, when funded by the public sector, taxpayers carry the risk but

are not compensated for doing so. In other words, although the public sector can borrow cheaper to finance investment project, this imposes a residual risk on taxpayers in much the same way as private-sector investors but without rewards. This liability being imposed on taxpayers is a cost that is not accounted for in any cost-benefit analysis of a project.

The second conviction is that, from any investment that the private sector makes, it requires a rate of return that may be high, thus exacerbating the concerns that the financial benefits that accrue to the private sector will be more generous relative to the public-funded model, or relative to the benefits that the public derives from the project. The last conviction is that PPPs involve high up-front transaction costs (bidding costs and lengthy bidding processes) incurred by parties to prepare for the bid. The time required to negotiate a commercial agreement and the on-going costs of over-sight hinder competition in the PPP market and put a number of private players off, especially SMEs. That, in turn, leads to expensive public services if provided through PPPs (Corry, 2004:29).

The argument that public financing of projects is cheaper than private financing is not convincing. The reason is argued by Currie (2000) that the citizens or the public underwrites or acts as a guarantor for government loans and receives nothing in return for playing that role. If the costs of underwriting a government loan were to be included in the financing costs of a public project, that may lead to public borrowing being equal or higher than private borrowing. Klein's argument (1996:5) that government borrowing is cheaper because the public sector can raise money easily through taxes should it face financial difficulties, makes more sense only if one ignores the cost of underwriting the debt by citizens. Furthermore, if one considers governments in countries where there is a high political risk, poor public finance management standards and a poor tax collection mechanisms, one would find that such countries borrow at a higher interest rate than private-sector firms that have a healthy balance sheet.

The argument by De Bettingnies and Ross (2004:147) that it is not always true that the government will be able to borrow at a lower cost than the private sector also

makes a lot of sense. This is because a full evaluation of relative costs has to be done before one can argue that the public sector can borrow at a lower cost than the private sector. These costs should consider factors such as (a) the credibility of the private borrower and the protection offered in its contract with the public-sector partner, (b) the extent to which tax savings may come from other levels of government; and (c) the degree to which the supply of funds to the public sector is upward sloping.

2.4.4 Do private firms sacrifice quality for profits in a PPP?

One of the concerns that the public or trade unions have about PPPs is the apparent excess profits that the private sector makes from PPP projects. The public is also concerned about that the private sector will always trade-off quality of service for the sake of profits once a private company is awarded a PPP contract (Corry, 2004:31; Dudkin and Valila, 2005:5).

This argument is not supported by international studies conducted on service quality issues after a private firm has been awarded a contract to provide a service. As mentioned earlier in the chapter, international studies have found that it is difficult to make comparison on service quality after and before a service is contracted out because of non-availability of data on service quality prior to contracts being let. A study by Domberger and Rimmer (1994) that examined the quality argument in a sample of 61 cleaning contracts, concluded that while competition lowered contract prices by between 35 to 50 per cent, cleaning performance was maintained and even enhanced in some instances. An empirical analysis by (Alcazar, Nakasone & Torero, 2007:36) that evaluated the impact of private versus public provision of electricity in Peru using data from a 2005 survey found that management of electricity by the private sector led to a significant improvement in the quality of the provision of electricity.

Domberger and Jensen (1997:74) summarised a number of studies based on 40 English local authorities and concluded that contracting had led to major changes in the monitoring of services by government, with explicit inspection processes being introduced and a clear emphasis on performance standards. This implies that if

quality deteriorates following contracting, that could be a problem of contract design or implementation, which is not associated with PPPs and can be prevented by applying appropriate output specification measures to address that challenge. Quality shading can happen if the public sector fails on its responsibility of performing its oversight functions as it has been reported in other studies (Monga, Mahta & Ranja, 2009:87).

Domberger and Rimmer (1994:69) summarised findings from ten studies that looked at the impact of contracting out on service quality and concluded that there is no consensus about the impact of contracting out on service quality and concluded that all these studies suffered from data availability and quality problems and more research is needed to resolve how CTC affects service quality. Therefore, the argument about quality shading is a matter that needs further research. In contrast, King (2001:4) argues that a decline in quality accompanied by a fall in price may be socially desirable, particularly if the quality of the service being provided by the public sector was unnecessarily high for the recipients in question.

It is clear from the above arguments that the problem of quality shading can only happen if the private sector operates in a guaranteed monopolistic environment and without proper public sector monitoring of service quality. Therefore, it is imperative to note that the problem of quality shading is not as a result of a PPP but that of poor government management of the private firm and failure by government to introduce competition in the industry, which is not the responsibility of the private sector.

2.4.5 Does the PPP model manage risks better?

One of the most important benefits of PPPs advocated by PPP proponents is that PPPs enable governments to shift project risks from the backs of taxpayers to the private firm. The argument regarding risk shifting is that the public sector can reduce the risk associated with its financial exposure to construction costs, maintenance costs and demand risk by employing PPPs (Yescombe, 2007:18). PPP proponents and governments articulate that the private sector has the advantage and ability to spread risk of a particular project over a number of other similar projects because it normally engages in many similar projects simultaneously. However, this does not

mean that the private sector simultaneously runs more projects than the public sector; it means that, given the same number of projects, the private sector can manage risks much better than the public sector, given the experience it has in project management, construction and operation (Gabriel and Head, 2005:30).

The above arguments can be rejected if tested against economic reasoning. An economic activity that makes economic sense is the one that maximises the welfare of citizens, not the one that shifts or spreads risks from one economic agent to another. Such an argument cannot be used as an economic justification to use PPPs as an alternative to the traditional procurement method. When the risk is spread over a number of projects the overall risk in the economy is not reduced, but only transferred or spread more broadly in the economy or to different sectors or projects within a sector. As Allen (2001:28) asserts, the goal of risk-sharing is not to maximise the amount of risk transferred from one party to another because that does not reduce the overall risk and thus does not improve the welfare of society. This implies that risk is simply shifted from the tax payers to the private sector with no net economic benefits.

The main argument the public sector can put forward for using PPPs is that using the private sector to deliver public services is cheaper because the private sector has highly skilled risk managers compared to the public sector. The best risk management expertise and tools possessed by the private sector can help to reduce the overall risk of the project, thus resulting in a positive net social welfare (International Monetary Fund, 2004a:11, European Commission, 2003:52; Sadka, 2007:8). The reason why the private sector has an incentive to reduce project risks is because, should the risk eventuate, its profits will be reduced. It can therefore be argued that the low cost and price of services provided through PPPs is due to better risk management and optimal risk allocation rather than risk shifting from the public to the private sector.

2.4.6 Do PPPs hinder accountability?

Operating the asset and providing the service is the public face of a PPP project. This is the highly visible attributes to which people most frequently respond. The

concern by government about giving a private firm the responsibility of providing a public service is about the loss of control associated with giving the private party certain contractual rights and the fact that a perfect contract between the government and the private firm can never be written and that performance can never be perfectly monitored (De Bettignies and Ross, 2004:144). As a result, day-to-day democratic control and accountability, as well as the ability of government to be flexible and respond quickly to new situations and public needs can be lost if the asset is under the private sector's control, thus hindering flexibility and agility (Fourie and Burger, 2000:308).

Even though the public sector can monitor the performance of the PPP, it will need to first discuss it with the private partner before it can take the necessary actions to correct any development that the government is not comfortable with in the provision of the service. This may take a long time before the two parties agree on the necessary steps that need to be taken. By the time they agree, one would find that the damage has already been done and the image of the government might have already been tainted.

PPP opponents assert that, once a private partner takes over the responsibility of delivering a public service that was traditionally delivered by the public sector, accountability to elected public officials and the public is lost (TD Economics, 2006:15). This is due to the fact that some business practices are geared towards the private sector's profitability objectives, which could be in conflict with government's goal of a high level of public accountability. In most cases the public expect government to be transparent and open to public scrutiny in order to gain public confidence. However, this does not bode well with the private sector whose objective is to remain competitive. In this case, the private sector would want to keep its operating strategies confidential, which is in conflict with public expectations.

This concern stems largely from the confusion over the difference between responsibility and accountability. The two are different: when a public sector transfers some responsibilities to the private sector, it does not relinquish accountability. Accountability will always remain the responsibility of the public sector

or the government agency, regardless of the method used to deliver the service. This is because the decision to use the private sector to deliver the service is made by the government on behalf of its citizens; therefore the private sector is accountable to the public sector and the public sector is accountable to its citizens. The government agency must therefore remain accountable for the efficient performance of the functions delegated to it by the government.

According to Domberger and Jensen (1997:76), contracting can actually enhance accountability in three different ways, namely (a) by prompting reviews of standards and service specifications; (b) by introducing rigorous performance monitoring; and (c) by setting up mechanisms for redress in cases individuals or organisations have suffered loss or damage. The findings by Ellman (2006:20) appear to be relating to lack of government effectiveness to deal with the private firm and responding to public pressure. Accountability does not change, however effectiveness does, due to the indirect control that the government has on the service being provided.

2.4.7 Do PPPs make it politically feasible to impose user fees?

According to Vining and Boardman (2006:7):

“... governments believe or at least want to believe that private-sector operations makes it politically more feasible to impose user fees, resulting in lower net expenditures for governments”.

The argument stems from the fact that users (or potential voters) would not have a problem paying for services provided by the private sector because of the understanding that the private firm needs revenue to cover its costs, repay its debt or make a profit. However, they will not accept a public sector charging them for services that, according to their understanding, should be provided by the public sector for free. As Vining and Boardman (2006:7) argue, this argument does have economic justification, especially when there are marginal social costs from public use, for example when highways are tolled to prevent overuse.

However, the public can still refuse to pay for the services as it happened with the Gauteng road improvement project³, where the public complained about the toll being too high and challenged them through the courts, such that the implementation of the toll collection was postponed by a few months while the minister of transport was investigating the feasibility of the tolls and their impact on the provincial economy (Serrao and Flanagan. 2011:1). This also happened in Australia, where the West Gate Bridge was tolled, but due to public pressure the tolls were removed (United States of America. Department of Transportation, 2007:78). Brits (2010:42) articulated clearly that some of the resistance by the public to pay for the tolls was due to lack of information about the concession agreement and that impacts negatively on user perceptions about PPPs. This implies that improving transparency as well as information availability and accessibility about PPP agreements to potential users is imperative for PPPs to succeed. Information about PPPs' contribution to socio-economic issues like development of SMEs and employment created by PPPs can help ease the resistance by the public to pay tolls.

From the above discussion on the possible economic costs and benefits of PPPs it is clear that there are differing views about the benefits that PPPs may render to the public. The discussion on these arguments will continue for a while until enough independent empirical research around this area is conducted. Having discussed the different views about the economic costs and benefits of PPPs, the next section examines these costs and benefits further by unpacking the efficiency perception of the private-sector in provision of public services. It aims at showing how these efficiencies arise.

2.5 The efficiency notion of the private sector

It is generally assumed that the private sector is more efficient than the public sector in the use of limited resources; therefore the use of PPPs will result in increased efficiency in service delivery, thus leading to improved social and economic welfare (Schmidt, 1996:2). According to De Bettignies and Ross (2004:142), Schmidt (1996)

³ The Gauteng roads improvement project is a project that is aimed at improving the conditions of all National roads around the Gauteng Province using the PPP model.

was the first person to investigate the trade-offs between public and private provision of services in an incomplete contract framework. The outcome of the study found that it does not matter whether services are provided by the private or the public sector, there are advantages and disadvantages associated with each sector's provision of services and the only difference is the extent of these advantages or disadvantages.

2.5.1 Private sector efficiency versus public sector inefficiency

Fourie and Burger (2000:309) assert that the assumption of private firms being more efficient than governments is based on two notions. The first notion is that the pursuit of profits and the promise of personal financial rewards for owners and managers create powerful incentives to push the production and marketing processes to their most efficient and cost-minimising limits via good management. Secondly, in a market environment the pressure of competition from existing competitors and potential entrants into the market acts as a powerful disciplining force on firms to be efficient in order to survive.

However, Schmidt (1996:16) argues that these ideas assume the presence of multiple sellers of the product or service, which is not always the case with services delivered through PPPs. The point that Schmidt is missing is that these efficiencies are inherent in the private sector's operations; the private sector does not develop these attributes once it is involved in a PPP project but it comes naturally with them from its previous operational environment (free market environment) where it had been exposed to competition. Schmidt's argument appears to refer to continuous improvement in efficiencies after the contract has been awarded. He fails to take into account that the *ex ante* competition is influenced by multiple sellers and efficiencies of those sellers.

Although there are few empirical studies that researched the efficiency of PPPs compared to the public sector in service delivery, an empirical study by Alcazar *et al.*, (2007:37) that assessed the impact of privatising the electricity sector in rural Peru found that there was improvement in the quality of the provision of electricity and efficiency gains in terms of the time allocation of the working labour force that

could be directly linked to the use of electricity. Case studies conducted by different international institutions concluded that private provision of water and electricity in rural areas led to increased access, efficient and more reliable services than those provided by government (Centre for Civil Society, 2005:21).

Although one supports the above assertion, firstly one needs to be aware that, although the government puts a lot of effort to ensure high competition for the market in almost all PPP projects, there is no guarantee that there will be competition during the bidding process, because the complexity and high transaction costs involved in PPP projects hinder small contractors from competing fairly for PPP contracts. Secondly, once a contract has been awarded to the winning bidder, the winning bidder becomes a monopoly in the market. Should there be enough competition in the market as PPP proponents assume, the competition would force the winning bidder to operate more efficiently and innovatively if it is to make a profit from the PPP deal (Hurst and Reeves, 2004:381).

It is important to note that it is not only competition that forces the private sector to be more efficient; the desire to make profit plays a very significant role. Therefore it can be concluded that the efficiency of the private firm is not necessarily a result of competition in the market alone, but is also motivated by its profit maximisation behaviour, as inefficiencies would result in increased operational costs, thus resulting in reduced profits.

On the other hand the public sector is assumed to be inefficient in the use of limited resources compared to the private sector. The inefficiency of the public sector has to do with the nature of incentives in government and the bureaucratic structure of government's ministries or departments. The inefficiency may be a result of the fact that government officials may be motivated not only by their duties towards government's business, but also by their own aspirations and value systems. These may cause a misallocation of resources and an oversupply of public goods or services, resulting in inefficiencies (Fourie and Burger, 2000:307). It is worth noting that these inefficiencies may also happen in big private companies, but it can easily

be detected and addressed immediately because private companies have effective measures in place to address inefficiencies should they arise.

However, there are some public sector entities that have built checks and balances into their operations and may operate as efficient as some private sector (African Development Bank, 2009b:2). The Malaysian government is a classic example of a government that has put in place checks and balances aimed at improving efficiency of the public sector. Such checks and balances include amongst other things: client's charter, process simplification, electronic data interchange, technology upgrade, efficiency and effectiveness measurement, performance reporting, financial management, asset management (United Nations,1995:5). It also highlights the benefits of implementing these checks and balances.

2.5.2 Trade-off between public- and private-sector provision of services

The trade-off facing government in its endeavour to provide a particular service is between quality and efficiency. That is, lower cost may lead to lowering the quality of service provided (International Monetary Fund, 2004:10). Hart (2003:71) argued that, while private provision may be efficient compared to public provision, private provision encourages quality shading in the process. According to Hart and Moore (1990:1121), this argument is based on two assumptions, namely (i) incomplete contracts and (ii) a positive relationship between quality and cost of service provision. The assumption about a positive relationship between cost of service provision and service quality implies that lowering cost has a negative effect on the quality of the service provided. If the service is provided by the private sector, the private sector will have a greater incentive to invest in cost reduction measures *ex ante*, and an equilibrium service will be provided at a lower cost by the private sector (De Bettignies and Ross, 2004:142). This is due to the fact that the private sector fails to internalise the negative effect that cost reduction has on service quality, and therefore has too much incentives to reduce costs, to the detriment of service quality.

According to Domberger and Jensen (1997:71), the incentive for the private sector to cut corners is due to the fact that certain aspects of service quality are non-contractible and because it can be difficult for the state to establish that the private

contractor is not providing the level of service stipulated in the contract specification. As a result, the contractor's incentives to reduce costs tend to override the incentive to maintain or improve service level. This behaviour is referred to as "*quality-shading hypothesis*" and this may increase the case against using PPPs for those who oppose private provision of public services.

The quality-shading hypothesis may be true if the public sector has not clearly stipulated the service quality level in the contract and on the assumption that the private sector does not care about future business from the public sector. Firms that want to brand themselves may worry a great deal about quality, since high quality tends to bring repeated business or business based on the word of previous clients. Studies on the relationship between costs and service quality indicate that there is no consensus about the impact of outsourcing public services and service quality, as different studies conclude differently on this matter (Domberger and Rimmer, 1994:449).

Furthermore, in a PPP project where the private sector is expected to design, construct, operate and maintain the asset, it will not make economic sense for the private sector to compromise the project quality because there is technological complementarity or economies of scope between building and service provision. The private sector will always want to decrease operational cost during the service provision period, thus minimising operational expenses while maximising profit on the other hand. Therefore it will be more inclined to design and construct a high-quality asset, thus providing a high quality service (De Bettignies and Ross, 2004:144).

Although PPP proponents support using PPPs to deliver public infrastructure, the above discussion shows that this type of a relationship has its own challenges that the public sector needs to take into account when dealing with the private sector. One of the main challenges is the incompleteness of contracts. According to Tirole (2007:20):

“... Contract incompleteness refers to the fact that it is impossible to write a contract that incorporates every contingency that is likely to arise during the life of the contract or every dimension of the service”

Contract incompleteness possesses a huge risk for PPP projects because, even if it was possible to write a complete contract, the cost of negotiating and enforcing it would be too high compared to the potential benefits of having a complete contract (Hart, 2003:70). Challenges like this one needs to be taken into account when entering into a PPP contract with a private sector party because they may affect the effectiveness of the PPP project. The following section discusses the institutional and regulatory requirements for PPP projects.

2.6 Institutional and regulatory requirements for PPPs

For SMEs to participate in PPP projects, there are requirements that need to be in place. Firstly, there must be PPP projects that are being implemented in the country. Secondly, the PPP market must grow over time. If the two requirements are not met it would be difficult to create jobs through SMEs' participation in PPP projects. Therefore, for the PPP market to grow, there are certain conditions/requirements that need to be in place. These requirements include institutional and regulatory environments conducive for a viable PPP market.

The main issue is to ensure that the roles and responsibilities of all parties (government and the private sector) are clearly defined and also to make certain that an effective system is in place to regulate and monitor PPPs in order to derive the desired value for money⁴ (European Commission, 2003:41). For a PPP market to support the development of the SMEs sector it needs to be supported by a strong institutional and regulatory framework that safeguards both the interests of the public and the private sector. The development of SMEs through PPPs is dependent on good functioning of the PPP market, as it is the market to which SMEs would sell their goods and services.

⁴ According to the definition of the Republic of South African National Treasury (2004a:17), Value for Money (VfM) means that “the provision of the institutional function or the use of the state property by a private party in terms of the PPP agreement results in a net benefit to the institution defined in terms of cost, price, quality, quantity, risk transfer or a combination thereof”..

The following sections discuss the different regulatory and institutional requirements that are necessary for a viable PPP market that would in turn support the development of the SMEs sector

2.7 Institutional requirements for PPPs

Infrastructure projects are characterised by large sunk costs, low mobility, area specificity and high risk of opportunistic behaviour. These characteristics increase investment risks on the part of the private investor. This means that before a private investor decides to invest in an infrastructure project, certain institutional conditions should have been met by the host country (Banerjee, Oetzel, & Ranangathan, 2006:179). These requirements by private investors are legitimate, given the fact that once a private investor has invested in a country's infrastructure project, it loses its bargaining power and the government can change the rules of the game as it wishes if there are no legal or regulatory frameworks that protect the interests of the private firm.

The theory of obsolescing bargain suggests that at the outset a foreign firm may receive favourable concessions and benefits for locating in the host country. After the firm has made the investment, the host country may be able to renegotiate the initial terms of the investment. This is likely to happen when the investment is characterised by a low mobility and heavy sunk costs, as is the case with PPP projects.

Over and above the obsolescing bargain theory Wildridge, Childs, Cawthra, & Madge (2004:8) also discuss other factors that are critical for the success of PPP. These factors include factors such as a regulatory environment and strong legal system. All these factors point towards a need for a well-established institutional environment that will protect the interests of the government, the consumer and the investor, while indirectly protecting those of the SME sector if PPPs were to be used to develop the SME sector (Ramamurti and Doh, 2004:166).

Below is a discussion of the main institutional requirements for PPP projects that private investors consider before deciding to invest in infrastructure projects in a country. These institutional requirements range from a regulatory environment, strong legal system to economic factors that can affect the development of a PPP market.

2.7.1 Legal environment

As mentioned earlier, infrastructure investments are vulnerable to opportunistic behaviour because of their nature. For the private sector to protect itself against these opportunistic risks, investors rely heavily on contracts which, in turn, are dependent on the legal and the institutional environment within which they operate. Therefore, the legal environment governing contracts, contract enforcement, property rights protection and the rule of law are important factors that investors consider before making a decision to invest. Therefore, strengthening these institutions is imperative (Ramamurti and Doh, 2004:166). It does not matter how well a PPP contract has been drafted, if there are weak institutional arrangements the interests of the parties involved in the partnership will be vulnerable to opportunistic behaviour.

Uncertainty in the legal system results in high transaction costs which, in turn, affect competition for the market (Scully, 1988:653). Empirical evidence by the International Monetary Fund (2006:17) supports this assertion, particularly in the telecommunication sector. This may be true because when the laws are uncertain in a country, corruption becomes prevalent. Furthermore, given the fact that contracts are incomplete, a robust legal framework is essential if the regulatory policy and contract arrangements prove inadequate to address PPP requirements and possible conflicts between parties (OECD, 2008:127; Fitch-Ratings 2003:3).

Banerjee *et al.*, (2006:179) assert that the rule of law that leads to transparent and honest economic transactions improves the overall returns on investment. This assertion may be true because transparent and fair procurement processes are likely to result in low transaction costs. International experience based on empirical analysis concludes that politically open societies that subscribe to the rule of law and

private property rights grow at three times the rate of societies in which such freedoms are abridged, and are two and a half times more economically efficient (Scully, 1988).

The development of a legal framework is imperative for facilitating a healthy investment climate for potential infrastructure investors. A weak legal environment creates uncertainties about the quality of regulations and therefore increases the risk of the country, thus decreasing incentives for investors to participate in PPP infrastructure investment. An empirical analysis by Banerjee *et al.*, (2006:189) supports the view that a stable rule of law is an integral factor in attracting private infrastructure investment. Economies with a stable legal system and a low risk of expropriation provide a haven for private investors.

2.7.2 Regulatory environment

Equally important for infrastructure investment is the regulatory environment. Countries with well-established regulatory institutions tend to experience a higher volume of infrastructure investment than those that have poorly developed regulatory systems. Critical to this are sound, transparent and honest infrastructure investment procedures that attract private investors (Rodrik, 1990:230; Tam, 1999:381).

Case studies conducted by Cook (1999:549) show that regulation rather than privatisation achieved the largest social and economic gains for consumers, the public and the private sectors. The main benefit that had accrued to consumers is the establishment of competition. Cook (1999) also identifies two criteria that are normally used to judge a good system of regulation, namely; one that enables the regulated entity to raise finance for investment at acceptable costs, and one that provides incentives for efficiency in operation, pricing, investment and innovation. Accordingly, regulatory methodologies should seek to introduce efficiency in the operation of the regulated entities.

Regulatory risk can also be mitigated. In South Korea, for example, the project selection process involves representatives of all government ministries that will be involved with the project over its lifespan. The advantage of involving all affected

ministries from the beginning of the project is that regulatory risk is mitigated upfront, since a concession agreement would take into account the concerns and agendas of the various government ministries that would be involved in the project. This gives the private operator an opportunity to adapt its concession expectations to an onerous regulatory environment (Fitch-Ratings, 2003:4). Although this approach makes sense, it is however likely to introduce a lot of delays in finalising the project negotiation stage, since a large number of affected parties become involved in all stages of the project. The delays may lead to increased transaction costs. However, trying to avoid this long process of consulting line ministries may also result in other problems during the implementation stage of the project. The project might get delayed during construction should it get challenged by some stakeholders if they were not involved from the beginning of the process. This might lead to litigations which may be much more costly than spending time upfront with all affected line ministries and other stakeholders such as the public that will be affected directly by the project. It is important that regulatory agencies are effective. Carino (2008:64) argues that, if a regulatory agency is to be effective, it should have an understanding of the political and technical intricacies of the industry and the demands on the public interests, as this can reduce regulatory risk significantly.

Characteristics of a good regulation system are as important as regulatory principles to guide day-to-day regulatory operations. The Australian Department of Treasury and Finance (2007) of the State of Victoria and the United Kingdom Better Regulation Task Force (n.d.) for example, detailed characteristics of a good regulatory system and also proposed principles to guide day-to-day regulatory operations. The following are the regulatory principles or practices that emerge consistently from the Victorian guide, the United Kingdom and from an international review of literature such as the Victoria Consumer Affairs (2008:4) and the University of Cape Town's Development Policy Research Unit (2008:54). These are: (i) ***Effectiveness and targeting***: meaning regulation should achieve its objective with minimal side effects, (ii) ***Transparency***: meaning regulations should be designed in a transparent and consultative manner, (iii) ***Proportionality***: meaning regulatory interventions should be proportional to the problem or risk that they seek to address, (iv) ***Consistency and predictability***: meaning regulatory design processes and

*decisions should be consistent with other policies, laws and agreements affecting regulated parties, and (v) **Accountability: meaning** regulators must be accountable for their decisions and subject to public scrutiny.*

Consistently adhering to regulatory principles helps reduce regulatory uncertainty and risks which might affect the development of the PPP market, thus affecting the participation of SMEs in PPP projects.

2.7.3 Domestic debt market requirement

Funding projects from domestic financial sources has economic merits. The development of a vibrant domestic debt market is important for encouraging SMEs to participate in PPP projects as it increases potential sources of funds (Banerjee *et al.*, 2006:182). A domestic debt market is important for attracting both foreign and local investors to PPP projects. A well-developed domestic debt market has the potential to increase access to finance for PPP projects, even to small local contractors that may not qualify for funds in international debt markets. If projects are financed by foreign banks, the cost of capital is likely to be high, given the fact that foreign banks would want to charge a higher interest rate because of the risks they expose themselves to and not clearly understanding the environment to which they would be exposed (Asian Development Bank, 1999:12). Another advantage of using local banks is that the profit generated by the project is not repatriated to overseas countries, but can be used to finance other development projects in the local economy that may involve the participation of SMEs.

However, the availability of long-term debt maturities is a challenge for both developing and developed economies. The challenge is the absence of long-term debt maturities needed by infrastructure projects. This challenge is more pronounced in developing countries than in developed economies. Most of the available debts are short and medium-term debt maturities that fail to accommodate long-term investments such as PPP projects (Fitch-Ratings, 2003:4; Asian Development Bank, 1999:12). This problem can be overcome by developing a vibrant domestic debt market and by creating a conducive regulatory environment.

2.7.4 Corruption and unethical activities

Corruption and unethical activities hinder private sector investment in infrastructure projects. Corruption is a result of poor governance, and poor governance directly affects the level and nature of private investment in a country. It deters investors, reduces the productivity of public expenditure, distorts the allocation of resources and lowers economic growth. Political corruption, which involves the abuse of power by politicians for private benefits, is one of the main deterrents to private investment in both infrastructure and non-infrastructure projects. The amount of money paid as bribes by the private sector to government officials is much less than what can be gained from proper allocation of public funds (Emery, 2003:1). Corruption may trigger political instability, which may finally result in poor economic growth and development (Economic Commission for Africa, 2005:62). Private investors tend to avoid corrupt investment environments in order to minimise inefficiencies and the added costs of doing business (Fjeldstad, Kolstad & Nygaard, 2006:8).

Corruption lowers private investment. Empirical studies by Mauro (1995:683) using data from 1980–1983 from a cross section of countries found that corruption lowers private investment substantially, reduces government expenditure and lowers life expectancy, thereby reducing economic growth. Corruption has the potential to diminish competition for the market in PPPs and may result in costly services. This is due to the fact that in PPPs competition for the market is the only tool that the public sector uses to ensure services are provided at reasonable prices.

Strong control over corruption protects investors' interests. An empirical study conducted by the International Monetary Fund (2003:18) using data collected from different African countries between 1970 and 1998, found that a common law system tends to secure investors' rights and protects the private sector better. Similarly, strong control over corruption protects investors from possible opportunistic behaviour associated with corrupt government officials. Such controls include the strict enforcement of legislation. An example of such measures in South Africa include the Public Finance Management Act (PFMA) of 1999 and Regulation 16 of the PFMA which aims at regulating PPPs at both national and provincial level to ensure that

PPP projects procurement processes are transparent, equitable and fair. Countries that do not have such legislative mechanisms can emphasise on transparency during the tender process and make clear to the public the advantages of using PPPs instead of the traditional method of procurement. This can help reduce opportunities for corrupt activities and increase the participation of SMEs in a growing PPP market.

Corruption has a negative impact on foreign direct investments (FDIs). A study by Wei (2000) on foreign direct investment and corruption using data for various years from 12 source countries and 45 host countries mainly OECD countries, found that in 14 out of 45 host countries corruption indeed reduced the inward flow of investment. Even when corruption does not deter investment, it may have an impact on the nature and composition of FDIs and on a firm's market entry strategy. The study by Wei (2000) also found that private participation tends to be lower in markets characterised by high levels of corruption because of the added costs and other risks associated with corrupt markets. Cumbersome and dishonest bureaucracies may delay the distribution of permits and licences, thereby slowing down the process through which technological advances become embodied in new equipment or new productive processes (Mauro, 1995:681). Corruption can also affect the development of SMEs in that small firms may not have the required money to bribe officials, and that may hinder their participation in businesses such as in PPP projects.

2.7.5 Transparency and easy access to information

Transparency is crucial for the development of a PPP market and the participation of SMEs in PPP projects. Easy access to information by civil society, the public and potential PPP investors at all stages of PPP procurement assists both the public and the private-sector partners in planning for a new PPP project. It also improves accountability and the management of projects. Transparency is a core element contributing to regulatory quality (Pongsiri, 2002:490).

In the United Kingdom, for example (Allan, 1999:29), the government has made it a condition that information on the following should be made available to the public, namely (i) record of future payments contracted for each PPP scheme; (ii) capital

value of contracts signed to date and in procurement; (iii) record of completed projects and their performance against expectations; (iv) performance evaluation of on-going projects and (v) return on equity actually achieved by private-sector investors. The Australian government requires that all public authorities make public their PPP contract information within three months of signing a contract. The information is expected to include (i) a brief summary of the contract content, (ii) a report on value for money (iii) details on the assets to be transferred to the private sector; (iv) total cost and basis for future changes in price; (v) contract renegotiation provision; (vi) risk-sharing details in the construction and operational stages; (vii) guarantees made by both parties; and (viii) details of the public sector comparator (OECD, 2008:126). Disclosure of PPP information should also include publishing detailed information on guarantees, as guarantees are likely sources of corruption (OECD, 2008:126).

Publishing information on PPPs can go a long way towards improving transparency in the procurement process of PPP projects, thus encouraging private-sector participation in infrastructure projects and, in doing so, opening more opportunities for SMEs participation in PPP projects.

2.7.6 Political institutions

Stable and reliable political institutions are necessary for foreign investors, particularly those that invest in infrastructure projects. If PPP projects are not supported by the political elite of a country they have a minimal chance to succeed. Weak political institutions are a deterrent to foreign investment and increase political risks⁵ (United Kingdom. Department of International Development, 2007:56; Attila, 2008:9; Gerring and Thacker, 2004:325). Countries with weak political institutions are more likely to result in war, civil strife or ethnic tension, and the inability of foreign firms to repatriate profits can compromise a firm's profitability and even survival (Banerjee *et al.*, 2006:181).

⁵ Political risks are defined as risks that are primarily the result of forces that are external to the firm and which involve host government action or inaction (United Kingdom. Department of International Development, 2007:56).

Weak political institutions may result in increased project transaction costs, arbitrary changes to a country's investment policies and expropriation of assets (Bergara, Henisz & Spiller, 1998:19). Decisions made by the public sector, such as the enactment of laws, policies and regulations affect the allocation of public and private-sector expenditures. It is therefore imperative for the private sector to know how these decisions are determined, given the fact that these decisions depend mainly on the political intuitions of the country (Isham, Kaufmann & Pritchett, 1997:219). A trusted and effective bureaucratic institution enhances private investors' willingness to participate in infrastructure investment (Bergara *et al.*, 1998:19).

According to Dethier, Ghanem & Zoli (1999:6), democracies are more conducive to private enterprises than other forms of government. It is mainly argued that democracies facilitate the adoption of market-oriented reforms and checks and balances implicit in the democratic system. These checks and balances help to give comfort to the private investor. Empirical work by Isham *et al.* (1997:237) and Dethier *et al.* (1999:4) using data from high, medium and low income countries from 1974 – 1987, supports this finding by concluding that countries with the strongest civil liberties have projects with an economic rate of return that averages between 8 and 22 percentage points higher than those with the weakest civil liberties. This finding suggests that increasing citizen's voice can lead to greater efficiency in government actions.

Civil rights are also important for foreign direct investments. Empirical evidence by Banerjee *et al.* (2006:193) using longitudinal data (1990–2000) from 40 developing countries, found that the effect of political institutions on investment is important, but only significant for total flow and not for their disaggregation components or the frequency of projects. It also revealed that political rights hardly matter in total private flows, but civil rights⁶ adversely affect private flows. The finding that political rights

⁶ Civil rights include ensuring of people's physical integrity and safety, protection from discrimination on grounds such as physical or mental disability, gender, religion, race and national origin. Political rights include natural justice (procedural fairness) in law, such as the rights of the accused, including the right to a fair trial; due process; the right to seek redress or a legal remedy and rights of participation in civil society and politics such as freedom of association.

hardly matter on private investment is supported by Alesina and Weder (1999:19) empirical finding using data from 1982 covering a number of countries, which found that there is no evidence indicating that less corrupt countries receive more FDIs, which also supports the notion that private investors are not deterred by corruption and political instability, especially in resource-rich countries.

2.7.7 Economic and financial institutions

Countries that aim at developing a vibrant PPP market need to develop strong economic and financial institutions. Strong economic stability is one of the important factors that private investors consider when deciding on locating their businesses. A high level of economic and financial instability is associated with greater institutional and investment risks for private investors. Financial and economic risks are associated with currency volatility, which may in turn result in poor functioning of capital markets. Furthermore, a high inflation rate has a negative effect on private investment, particularly in emerging economies. Currency volatility and a high inflation rate can affect the value of a company's investment in infrastructure, as well as consumers' ability to pay for services (Mwilima, 2003:38). The three main factors here are: stable macroeconomic system, market size and reforms of the fiscal system.

An empirical analysis by Banerjee *et al.* (2006:194) found that a higher exchange rate affects private investment flow negatively as it makes the local economy uncompetitive. Another empirical work by Osinubi and Amaghionyeodiwe (2009:103) based on Nigerian firms' data from 1970 -2004, confirms this finding by concluding that the depreciation of a local currency has a positive impact on FDI inflows. However, a number of studies have given mixed results on the effect of an exchange rate on FDIs. Some of these studies are summarised in Osinubi and Amaghionyeodiwe's work (2009). These authors miss the point: the issue is not about a weaker exchange rate, but about exchange rate volatility that has a greater negative impact on investment. With regards to the market size: the bigger the market, the better for private investment. This is because a big market size means

there will be enough consumers to consume the produced product or service. The private sector will always prefer to invest in a country that has a reasonable market size for its product. An empirical study by Botric and Skuflic (2005:15) conducted for South Eastern Europe countries, analysing geographical and sector distribution of FDIs between 1980–2003, found that GDP per capita and the size of the market as measured by the population size have a significant impact on private infrastructure flows. These inflows not only increase investment in PPP projects, but also increase opportunities for the SME sector. Reforms of the fiscal system are equally important for a viable PPP market. Countries that wish to attract PPPs must establish stable macroeconomic conditions, adequate tariff regimes, a track record of honouring commitments and reasonable economic policies such as inflation targeting, tax reforms and medium-term expenditure framework (MTEF) or its version as was adopted by a number of African countries, including Zambia, Kenya and Namibia. The South African government adopted the MTEF in 1998 as part of a wide package of budget reforms that included the intergovernmental Fiscal Relations Act of 1997 (IGFRA) (Republic of South Africa. National Treasury, 2007:3; Economic Commission for Africa 2005:57). Since then the South African national budget has included three-year spending plans, and investors' perception about the macroeconomic and fiscal management has since improved. This is indicated by the increase in total investment as a percentage of GDP, which increased from 18, 1% in 2004 to 22,% in 2010 (International Monetary Fund, 2010:76).

2.8 Regulation and public-private partnerships

As mentioned earlier, a regulatory environment is imperative for the private sector to invest in infrastructure. This section therefore focuses on the relationship between regulation and PPP projects by discussing both the advantages and disadvantages of regulation on PPPs.

The successful implementation of public-private partnerships depends, to a large extent, on sound regulatory frameworks, agreements and contracts that clearly define the relationship between government agencies and private firms. In the absence of a well-developed regulatory framework for PPPs, disputes are likely to occur and as a result projects can be delayed or even terminated.

The objective of a regulatory framework is to reduce opportunistic tendencies and to align the interests of the parties involved (Pongsiri, 2002:489). Regulations should be based on laws and should make it difficult for politically motivated influences to disrupt the smooth implementation of PPP projects. This calls for independent regulatory agencies to ensure decision-making autonomy. These agencies need to be accountable and should make regular public reporting a priority (Scandizzo, 2007:12).

Below is a brief discussion on the importance of PPP regulations and the disadvantages of over-regulating the PPP market.

2.8.1 The advantages of regulations in PPPs

As mentioned in the above section, regulation in PPPs is a useful tool for protecting the interests of the private investor by preventing direct or indirect expropriation of investment capital. It ought to satisfy the demands of both the public and private sectors, which can at times be conflicting (Hirschhausen, Beckers & Brenck, 2004:207).

An ideal framework for PPP regulation is the one that strikes a balance between establishing a system of regulations and ensures accountability of partners and avoids over-regulation. Over-regulation can stifle innovation, while at the same time, failing to protect the legitimate interests of all stakeholders in fostering partnerships and introducing unintended consequences into the system can also create problems (Scandizzo, 2007:12).

A properly regulated PPP market is beneficial to the general public. Without proper regulation the poor can be the victims of PPP projects through high prices and low service quality (Parker and Hartely, 2002:308). An empirical assessment of the importance of the regulatory framework as a determinant for private-sector investment in infrastructure by Pargal (2003:23) covering the water, telecommunications, railroads and road sectors in 9 Latin American countries using data from 1980-1998, found that the most significant determinant of private

investment is the passage of legislation liberalising the investment regime. This indicates that the legal basis for reform is more critical in determining the quality of the investment climate. Regulations also reduce the chances of renegotiating a PPP contract. Renegotiation can create the potential for opportunistic behaviour by both the government and the private investor (Harris, 2003:10).

Regulation benefits the consumer, the private investor and the government. It protects the private sector and the government from opportunistic behaviour that may harm the proper implementation of projects. It also increases access to services by the consumer at affordable prices, as it protects consumers from being exploited by service providers.

2.8.2 Over- or poor regulation of PPPs

Although regulation is imperative for the development of a viable environment for PPPs to operate, it is important to add that over-regulation and contractual safeguards can also restrain economic growth and hinder the ability of the private sector to remain competitive in the market. The operational costs of the regulated entity can increase drastically due to unnecessary additional compliance requirements. Employees' time might be taken up by complying with regulations, and companies may pay exorbitant professional fees in seeking advice on legal actions as a result of alleged non-compliance by regulatory authorities (Emery, 2003:9). This can happen if the regulators are over-concerned with the welfare of the consumer at the expense of the private firm.

Empirical work on the impact of regulations on small businesses found that regulation distorts market signals and reduces the rewards of business ownership, dis-incentivises market entry, investment, innovation and business growth, all of which lead to the sub-optimal level of economic activity from which businesses, workers and consumers suffer (Kingston University, 2005:3). This means that regulators need to take into account the interests of both the consumer and the private firm when making regulatory decisions to avoid the negative impact of regulation on regulated firms. Although this finding refers only to small firms, it might

however even be relevant for big construction firms depending on the extent of regulation imposed on them.

Poor regulation⁷ can lead to projects that were once operational becoming financially and operationally unviable. If regulation is unable to balance the financial viability of the private firm, consumer or government interests, then it can turn a viable project into becoming financially unviable (Kintanar, 2009:8). As a result of poor regulation, a number of PPP projects went wrong in Australia. For instance, the Australian government's lack of transparency, disregard of commercial warnings related to project viability and ill-managed public relations in the first decade of the 21st century led to the failure of these projects (Dahdal, 2010:7).

Having discussed the advantages and disadvantages of regulation for PPPs, the following section discusses the required institutional framework necessary for a viable PPP market.

2.9 Institutional framework for public-private partnerships

A clear legislative framework specifying the roles of the public and private sectors, their relationships and the areas for co-operation is essential for building sustainable partnerships. International experience suggests that identifying and establishing clear and unambiguous institutional functions in relation to PPPs at the onset of a country's PPP programme can greatly assist in successful PPP implementation. Furthermore, it is imperative to have a degree of flexibility in the early years of a country's PPP programme in order to encourage experimentation and innovation to ensure that public bodies that have the capacity are not delayed while institutional capacities are being developed (Pongsiri, 2002:488).

This section therefore discusses the different elements that make up an effective institutional framework for PPPs. These elements include: political commitment and good governance, the development of an appropriate legal framework, the development of PPP expertise within the public sector, the refinement of project

⁷ Poor regulation may mean either over-regulation or under-regulation.

appraisal and prioritisation criteria, reforms on public sector procurement requirements; contractual compliance and enforcement effectiveness and PPP monitoring framework.

2.9.1 Development of an appropriate legal framework

A well-developed legal framework provides reassurance to the private sector that contracts will be honoured. In some cases this may require changes or additions to existing laws. In order to succeed in developing a viable PPP market, governments need to introduce and manage the politics of reforms. All stakeholders likely to be affected by the reforms need to be treated fairly (Harris, 2003:41). The incompleteness of PPP contracts necessitates a strong legal system that the public can trust. Although a strong legal system will not completely eradicate the risks involved in PPPs, it will reduce them through a competitively chosen PPP partner working within a robust regulatory framework, which is properly monitored and which can ultimately deliver quality public services efficiently and equitably

A good example of countries that revamped their legal frameworks in order to facilitate private participation in infrastructure investment includes Italy and Spain. In both countries new laws also sought to secure creditors' rights. This has also been emphasised in Brazil and Chile, where the governments assured investors that they would honour their future commitments (OECD, 2006a:120). The legal framework should be accompanied by clear, credible and efficient dispute resolution mechanisms that may be used to address disagreement between parties, should a dispute arise during the project implementation stage.

2.9.2 Dispute resolution mechanisms in infrastructure projects

There are several methods that can be used to resolve disagreements between two parties. The most commonly used and most important one is through the courts. The advantage of this method is that it results in a binding decision that is imposed upon the parties in a dispute, while other mechanisms merely suggest solutions that the parties are not bound to accept (Biukovic, 2008:261). It works well if both parties belong to the same country. When the dispute arises between two parties from

different countries there is difficulty in dealing with their disputes due to the differences in the law systems (common law or civil law system) of their respective countries. Other difficulties include the absence of a treaty for the enforcement of foreign judgements in any other jurisdiction, the availability of assets of the defended in that jurisdiction, and claim for sovereign immunity cannot be ignored.

Due to the above-mentioned difficulties in dealing with a dispute through the courts, many countries prefer to use other methods, called alternative dispute resolution methods, to settle disputes between two parties coming from different jurisdictions. Many long-term contracts specify how disputes are going to be dealt with and which dispute resolution method is going to be used should a dispute arises. Table 2.2 gives a summary of different dispute resolution mechanisms that can be employed to deal with disputes in PPP projects. It is not the intention of this paper to go into a detailed discussion on the different dispute mechanisms which are normally employed by different parties.

Table 2.2: Different disputes resolution mechanisms

Method	Description
Arbitration	Is the oldest method and has existed in one form or another in every country at all times.
Fast-track arbitration	This is time-bound arbitration and is similar to the common arbitration. Governments can promulgate fast-track arbitration rules and appoint an arbitrator.
Conciliation or mediation	One or more independent persons are selected by the parties to an agreement by mutual consent either at the time of making the agreement or after the agreement has been made to bring about a settlement of their dispute through consensus by employing persuasive techniques.
Mini-trial	Here senior management of the parties involved in the dispute meet in the presence of a neutral adviser. The adviser will study the dispute and then tell the senior management personnel of the relevant companies about the strengths and weakness of the case so that the parties can take the appropriate decision about their dispute going forward.
Expert assessment (engineers)	Parties involved in long-term contracts such as construction projects appoint experts for the resolution of disputes that may arise during the course of the contract. In most instances, the experts are construction or civil engineers who are normally available on the construction site to deal with disputes as they arise.
Dispute Review Board	Dispute Review Boards are established immediately after the contract is made. Disputes through these boards are fast, inexpensive and avoid disruption of construction work.
African customary system of dispute resolution	Customary law is generally known to be the accepted norm of usage in any community. A community can accept certain customs as binding on them.

Negotiation	This is a voluntary and informal process by which the disputing parties reach a mutually acceptable agreement.
Early neutral evaluation/fact finding	Here the disputants select a third party to investigate the issue in dispute and submit a report or give evidence at another forum like a court or arbitration. The outcome of the fact finding is not binding but the result is admissible for use in a trial or other forum.

Source: *Owasanoye (2000)*

An equitable legal system is essential to assure investors that any disputes can be resolved quickly through litigation or other means, and it gives comfort in that both parties will respect the contract (Tam, 1999:381).

An independent judicial system is an important prerequisite to government's ability to credibly commit to contract terms. An empirical analysis by Bergara *et al.* (1998:28) that analysed the relationship between an independent judicial system and private investment across 91 countries using different data sources, concluded that an independent and respected judiciary with a track record of successfully ruling against government is an important prerequisite to government's ability to credibly commit to contract terms. This normally happen in democratic environments. The presence of democracy is therefore the meta-institution for the existence of other non-market institutions that penalises self-interested politicians and hence limits rent-seeking opportunities.

2.9.3 Development of PPP expertise within the public sector

Investment in PPP skills development is imperative for the success of PPP programmes. This of course covers the full range of skills and competencies required to manage a PPP programme such as bidding and contracting skills. These skills must exist both in the public and the private sectors for mutually beneficial partnerships (Adej, 2009:4). Good procurement skills can help reduce bidding costs and deliver more effective projects. Such skills are vital for delivering quality investment on time and in a way that secures value for money for the public sector (United Kingdom. Her Majesty Treasury, 2003:5). Skills that are a must within the public sector are regulatory skills (United Kingdom. Department of International Development, 2007:58). Therefore, development of expertise within the public sector is critical.

In the United Kingdom (UK), a review of the PPP institutional framework revealed that the complexity of PPP projects requires a certain level of commercial knowledge and experience that is normally not available within government and its agencies. Such skills include financial, legal and technical advice and contract negotiations and procurement. The availability of such skills has the potential to speed up the process of implementing PPPs (Allan, 1999:30). If the government and the private sector fail to work together properly because of the lack of such skills, that may affect the SME sector as well, given the fact that its survival would be dependent on the proper functioning of the PPP project.

According to Adei (2009:4), many African governments still lack the necessary skills to develop the requisite capacities needed to implement policies and programmes for sustainable development. They also lack the ability to develop human capacity in terms of supply of professional and technical personnel. An empirical analysis by Youssef, Noorbakhsh and Alberto (2001:1602) found that FDIs are a function of human capital. Therefore, as competition for investments increases, developing countries are to improve on local skills availability and build up their human resources capabilities to raise not only the volume but also the quality and meet the sophistication requirements of both local investors and FDIs.

2.9.4 Refinement of project appraisal and prioritisation criteria

It is important to have project appraisal and prioritisation criteria that maximise the use of the PPP procurement method in order to achieve value for money. A number of countries have adopted good procurement and prioritisation approaches to improve PPP project identification. Such countries include South Africa, the United Kingdom, Mauritius, Chile, Portugal and South Korea, to name a few (Orissa, 2007:4). They have also created PPP units that are responsible for surveying public-private relationships for collecting, analysing, drafting PPP appraisal guidelines, legislation, and disseminating information on PPPs. These units provide detailed guidance and technical assistance to line ministries and government agencies in relation to the selection, feasibility and management of PPP projects (Orissa,

2007:4). They also ensure that future fiscal implications of PPPs are aligned with medium-term debt sustainability.

By contrast, some countries allow the private sector to propose projects to be undertaken as PPPs. This approach is likely to introduce bias in the identification of PPP projects. PPP projects identified or proposed by the private sector are likely to overlook the economic and social benefits of the project that will accrue to the citizens. It is important that benefits of proposed projects are weighed against wider economic costs and benefits that take into account the project impacts to the welfare of the society including their impacts to SME development.

2.9.5 Reforms on public-sector procurement requirements

Once a policy has been adopted by the government to use PPPs to deliver public services it is of the essence that the government introduces reforms in the procurement requirements. For example, an innovative PPP contract with a company to finance, design, build and operate a public facility over a 20-year period may be impossible to accommodate within the existing government procurement policies. To accommodate the unique structure of PPP projects will necessitate some adjustments to the procurement policies to ensure that PPPs are not affected by the huge number of government regulations (Bloomfield, 2006:401). This may require that PPPs are exempted from some government procurement rules and for governments to be flexible as PPPs are introduced into the market.

Other countries group small projects into one in order to reduce transaction costs for potential bidders and to allow big and experienced bidders to bid for the projects. However, grouping small projects can have negative implications for small contractors (SMEs) who cannot afford to bid for big projects due to their limited financial resources and technical expertise. This can affect the development of small businesses, thus affecting competition for the market for PPPs in the long term. The development of small firms is essential for economic development and job creation. Any policy that overlooks the development of small firms should not be encouraged. In the long term the increased number of small businesses can result in increased

competition in the PPP market, thus increasing value for money for PPP projects while addressing the issue of unemployment facing developing countries.

Governments should also consider refunding bidders their bidding costs should the government decide not to proceed with a project if the decision not to continue is not related to the viability of the tenders received (Allan, 1999:31). This is a good idea, since refunding a bidder in this case helps to keep competition high for PPP projects if potential firms know that they will be refunded their bidding costs if the government decides not to continue with the project. Cancelling a project without compensating bidders may result in a low response rate for projects' adverts in future and that may have negative implications for competition.

Preparing the public for user charges is necessary in PPP projects. There is a need for governments to prepare the public for user charges and fees for any service provided through PPPs. Governments have to reform themselves and teach the public that the era of free services is coming to an end in order to increase public acceptability of PPP projects (Allan, 1999:33). One of the difficulties faced by the private sector in most African countries is that tariffs for services are too low to recover investment costs from a PPP project, especially in the water sector (Kintanar, 2009:8).

2.9.6 PPP monitoring framework

The importance of a PPP monitoring framework is to create an environment conducive for the PPP market. One of the reasons why the United Kingdom together with other developed countries such as New Zealand, Australia and the Netherlands have achieved success on the PPP front is that they took action early to put in place all-important building blocks of (i) a standardised assessment and selection process, (ii) a higher level of expertise across the public sector (ii) an open, transparent and accountable environment, and (iv) a strong commitment behind the process. All these building blocks enable easy monitoring of PPP projects.

However, many developing and emerging economies do not have the expertise to develop such frameworks as has been discussed. The establishment of a

transparent and sound contract monitoring framework is a necessary precursor to private-sector participation in public-private partnerships. Therefore, countries that have embraced the PPP model have no choice but to develop monitoring expertise if they are to compete effectively for FDIs in PPP projects. The public sector needs to ensure that PPPs operate efficiently and that they meet the minimum service level agreement and operate in line with the broader policy objectives, ranging from social to environmental policies (Pongsiri, 2002:490). In support of Pongsiri, the development of such frameworks can help as a safeguard for the public sector to ensure that the services delivered through PPPs indeed meet the quality and service level agreed upon.

A successful PPP depends, to a large extent, on the capacity of the government to keep the contract on track via proper contract monitoring. Contract compliance can be monitored either by an independent regulator, by independent auditors or by government itself by creating a unit responsible for contract monitoring and compliance (OECD, 2008:130).

Having discussed the instructional arrangement necessary for PPP projects the following section discusses the South African PPP institutional developments.

2.10 The South African PPP institutional developments

As part of establishing the required institutional governance structure for PPPs, the South African government provided for the establishment of a PPP Unit within the South African National Treasury in 2000, as discussed in the first chapter. The first objective of the PPP Unit is to regulate PPPs in accordance with constitutional and statutory requirements for transparent, competitive and equitable distribution of PPP projects at national, provincial and local government levels. The second objective of the PPP Unit is to create a centre of knowledge and expertise that can provide individual departments with technical assistance during the development of a PPP project and keep a watchful eye on departments through its regulatory approval mechanisms (Burger, 2006:5). Since the government decided to implement PPPs, a number of regulatory policies have been developed in order to create an

environment conducive for the development of a PPP market. Table 2.3 gives a summary of the core legislation applicable to PPPs in South Africa.

Table 2.3: Developments of PPP institutional framework in South Africa

Date	Action	Purpose
1997	Cabinet approved the appointment of an interdepartmental task team (not a legislation)	To develop policy, legislation, and institutional reforms to enable the use of PPPs
1999	Public Finance Management Act (PFMA) was enacted	To create a good governance structure for the procurement of goods and services, including PPPs, by the public sector
Mid 2000	PPP unit was formed	To create policy and regulatory framework for PPPs in the country
2004	Regulation 16 of the PFMA was issued	To regulate PPPs at both national and provincial level to ensure that such projects are transparent, equitable, and fair
2004	PPP manual was issued	To guide both governments departments and provinces through PPP project life cycle
2005	Municipal PPP regulation was issued in terms of the Municipal Finance management Act of 2003	It defines the elements of a municipal PPP and set out the stages and approval it will have to go through

Source: Fourie (2006) and Furrugia and Orr (2008)

From the table above it can be seen that the South African government has laid down the necessary foundation for an environment conducive for PPP projects. A study done by the support programme for infrastructure development (SPAID, 2007:12) on PPP challenges in South Africa found that the private sector feels the policy framework for PPPs emphasises the regulation of PPPs when what South Africa needs is the promotion of PPPs, the facilitation of PPPs and capacity-building for implementing agencies. The private sector concurs that the rules for PPP procurement are generally acceptable. Table 2.4 below summarises the different views about the South African PPP institutional framework. The responses were compiled by SPAID after interviewing different private-sector PPP partners, government departments and agencies responsible for PPP projects.

Table 2.4: Views about South African PPP institutional framework

Topic	Private sector	Implementing Agencies	Government responsible for policy	Agencies for PPP
Legal environment	<p>Rules for procuring PPPs are broadly acceptable at the national and provincial level, but better suited for higher value transactions and more developed PPP markets</p> <p>PPP unit micro-manage transactions</p> <p>BEE/SMME thresholds included in PPP guidelines are not necessarily in line with sector charter</p> <p>Rules do not work at the municipal level</p>	Treasury or other legal rules for procuring PPPs are too onerous or confusing	<p>Rules for procuring PPPs are good, but there is a need to streamline for smaller value projects</p> <p>PPP unit has already developed, and will develop more, streamlined processes for smaller value projects, or projects in more familiar sectors (example, small cap, ecotourism projects)</p>	
Role of the PPP unit	PPP unit does too much regulation, and too little promotion and facilitation of PPPs within implementation agencies		PPP unit spends as much time as it can promoting and facilitating PPPs	

Source: SPAID (2007)

The general feeling by the private sector is that the PPP legal environment is acceptable at both national and provincial levels; however, it needs a few adjustments at the municipal level. This confirms that the South African government has gone a long way towards preparing the PPP environment and adopting best practice in developing a feasible regulatory and legal environment for PPPs to flourish.

2.11 Chapter summary

The chapter has looked at both the economics and institutional requirements for PPPs. It discussed the conflicting goals of the private and the public sector when entering into a PPP relationship. It concluded that both parties have different objective functions and therefore these differences in their objective functions could result in conflicts between them. The public sector's objective is to maximise

economic welfare and reduce current budget debt, whereas the private sector's objective is to maximise risk adjusted profits. The research found that, for the private firm to maximise profit it has to compromise service quality taking advantage of contract incompleteness and the positive relationship between quality and costs of service provision. However, studies on the relationship between costs and service quality indicate that there is no consensus about the impact of outsourcing public services and service quality because of poor data availability prior to services being outsourced.

The chapter went on to discuss the economic benefits and costs of PPPs and concluded that those who argue against PPPs normally tell part of the story about the real costs of PPPs. The chapter revealed that it is not the cost, but the net benefit that is the most relevant benchmark in considering which alternative is better and, on this count, PPPs have the potential to provide significant value for money.

It also found that the main argument for engaging the private sector to provide public services is that, if government does not have the money to construct the public project or provide the service to consumers and the private sector does not finance or provide the infrastructure at the time when it is required, there would be opportunity cost involved in the economy as a whole. Therefore it makes economic sense to have the project or service provided by the private sector than not having it at all, and this frees limited government's budget and allows government to focus on other services using the money saved by engaging the private sector.

The chapter also revealed that PPPs may be a solution to financially constrained governments with increasing demand for services, however involving the private sector in providing public services requires a comprehensive monitoring system with clear performance measures or indicators, and this is normally lacking in most public sector monitoring departments. Governments need to establish well-capacitated monitoring units or departments if they intend to involve the private sector in infrastructure provision in order to ensure that public funds are used efficiently.

It went on to look at the institutional arrangements necessary for the success of PPPs. The objective had been to identify and define the relevant statutory, regulatory and institutional factors that affect successful implementation of PPP projects. It found that government has a responsibility to establish the necessary legal framework, including competition policy and entry and exit laws in order to promote a prosperous PPP market.

It also found that the successful implementation of PPPs is, to a large extent, dependent on a sound regulatory framework and that, although regulation is imperative for the development of PPP projects, over-regulation can be the greatest deterrent to private-sector participation in infrastructure investment. This happens when regulations are limited in scope, unclear in operation and inclined towards micro-management.

Lastly, it analysed the developments of the South African PPP institutional and regulatory frameworks. It concluded by giving different views of both the private and the public sector about the South African PPP institutional and regulatory frameworks. In general it has been found that the South African institutional and legal requirements for PPPs have developed to an acceptable international standard.

CHAPTER 3: THE ROLE OF PPPS IN DEVELOPING AN SME SECTOR

3.1 Introduction

Chapter 2 defined PPPs and discussed their economics and their institutional, regulatory and legal frameworks. It found that strong institutional, regulatory and legal frameworks are imperative for a PPP programme to succeed. It showed that to have a viable PPP market that can support SMEs development, there need to be a well-functioning legal, regulatory and institutional framework that will protect the interests of consumers, the private and the public sectors. This shows that without strong legal, regulatory and institutional frameworks, it can be difficult to develop a viable SME sector through PPP projects, since a viable PPP market is a necessary condition for SMEs to participate in PPP projects. This chapter therefore discusses the role PPP projects can play to develop a sustainable SMEs sector, especially for developing countries.

SMEs differ from large organisations in many ways. SMEs differ from big enterprises in resource limitations, in their informal strategies and flexible structure. As a result, SMEs have a higher failure rate compared to large firms. This causes a slow growth of SMEs, especially in developing countries (Hussain *et al.*, 2012:1582). The lack of key resources, such as human capital, finance and technology affects their growth. The question that one can ask is: can PPPs address these challenges? The answer is: not all SME challenges can be addressed through PPPs. However; PPPs can improve the sustainability of SMEs through subcontracting them to provide certain goods and services. In that way the challenge of access to markets for SME goods and services would have been mitigated to a certain extent, as SMEs would have a guaranteed market for their products and a sustainable income as long as the PPP project continues to operate. This means that more PPP projects in a country can result in more opportunities for SMEs. This can happen only if the PPP market is supported by a well-functioning legal, regulatory and institutional system that supports the growth of the PPP market, thus opening more opportunities for SMEs to sell their goods and services to the growing PPP market. This also requires a policy

that would force PPP projects to use SMEs as suppliers of their (PPPs) goods and services.

As mentioned in the first chapter, the main objective for using PPPs is to provide public infrastructure services to citizens, as many governments around the world struggle to provide more and better services due to limited budgets (De Bettignies and Ross, 2004:135). Although the lack of public infrastructure to provide public services is seen as a problem by many governments, it presents an opportunity for the development of a sustainable SMEs sector for both developed and developing countries. The bigger the infrastructure backlog, the bigger the opportunity for countries to develop a viable SMEs sector that has the potential to create jobs and alleviate poverty, while at the same time addressing the challenge of inequality.

The advantages of addressing these triple challenges (unemployment, poverty and inequalities) through SMEs compared to large companies is that SMEs create new jobs through small investments opportunities that may not be attractive to large companies, thus maximising local economic opportunities; SMEs use local raw materials that would otherwise be neglected, they offer people with little income and little education opportunities to develop and contribute meaningfully to the economy, they provide a route through which previously disadvantaged persons can own and control a larger percentage of the economy, and more SMEs means more of the wealth generated by them stays within the country to be used further to generate even more opportunities compared to large firms which normally repatriate their profits to their country of origin (Mutsigwa, 2009:81; Fatoki and Odeyemi , 2010:128). Compared to larger firms, SMEs tend to use less capital per worker, as most SME activities are more labour-intensive compared to big firms. A study in countries such as Ghana, Colombia and Malaysia found that small firms have significantly higher value added to fixed assets ratio (Hussain, 2000:2).

It is projected that South Africa's infrastructure may not meet future demand for infrastructure needs (NEPAD Business Foundation, 2012). This has already been experienced with power supply shortages in 2008. South Africa's infrastructure deficit was estimated at R1,5 trillion in 2012 (NEPAD Business Foundation, 2012). In

the 2012 budget speech, the Finance Minister, Pravin Gordhan announced that R850 billion would be allocated to infrastructure investment over the next two years. The projected cost of the South African government's infrastructure programme over the next 30 years is estimated to be R4,3 trillion (Paton, 2013). This backlog cannot be automatically converted into opportunities for SMEs and the country as a whole without government intervention. The high number of unemployment in the country of approximately 24,3% in 2014 (South Africa. Statistics South Africa, 2014a) and the high level of poverty, which is estimated to be about 45,5% of the population living on less than R620 per month in 2011, and high inequality levels as indicated by a Gini-coefficient of 0,65 in 2011, present a big challenge for the country (Republic of South Africa. Statistics South Africa. 2014b). The infrastructure backlog presents an opportunity for the country to effectively address these triple challenges of unemployment, poverty and inequality. What the government needs to do is to find a way of changing its infrastructure backlog problems into opportunities for job creation and poverty alleviation and developing a policy that will encourage or force companies involved in PPP projects to use SMEs as their suppliers of intermediate goods and services.

The objective of this chapter is therefore to show how PPPs, especially during both construction and operational phases, can be used to develop a sustainable SME sector and address the triple problem of unemployment, poverty and inequality. This chapter is organised as follows: the second section discusses the role of SMEs in economic development. The third section discusses challenges facing the SME sector in general and in South Africa, followed by a discussion on the potential role that PPP projects may have in developing a sustainable SME sector in Section 4, while the fifth section discusses South African government's initiatives to support SMEs.

3.2 The role of SMEs in economic development

Before discussing the role of SMEs in economic development, it is imperative to first define SMEs in order to ensure that all readers of this thesis have the same definition of SMEs, as the term SMEs is defined differently from jurisdiction to another.

There is still no universally accepted definition of SME as is the case with the definition of PPPs. SMEs differ in their levels of capitalisation, sales/productivity and employment. If SMEs were defined based on measures such as number of employees, turnover, profitability and net worth, this may lead to firms being classified as small, whereas, when the same size definition is applied to a different sector it might result in all firms being defined as large. Even though SMEs constitute the central pillar of all economies, there is still no single definition in the literature on SMEs for which global consensus is assured. Although the South African National Small Business Act of 1996, amended in 2003 and 2004 (Republic of South Africa. Department of Trade and Industry, 2004), gives an official definition for SMEs in South Africa, different agencies and research institutions do not use this definition consistently and that makes it difficult to benchmark different studies and data on SMEs (Republic of South Africa. National Credit Regulator, 2011:26). The many definitions of SMEs are based on many factors, such as the level of industrialisation, economic level, technology employed, number of machinery, workbench, size of the market, the business line of operation, to mention but a few. The most common definition of SMEs is based on the number of employees that a firm may have or the turnover that the company generates in a year.

According to the National Small Business Act of 1996, as amended in 2004 (Republic of South Africa. Department of Trade and Industry, 2004), an SME is defined as:

“... a separate and distinct business entity, including co-operative enterprises and nongovernmental organisations, managed by one owner or which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or sub-sector of the economy mentioned in Column 1 of the schedule...”

The National Small Business Act of 1996, as amended in 2004, also distinguishes between survivalist, micro, very small, small and medium enterprises; hence the use of the word SMMEs. However, the term SMMEs and SMEs are used

interchangeably in South Africa. Even for the purpose of this study the two terms are used interchangeably. The broad definition of SME in SA is summarised in Table 3.1.

Table 3.1: Broad definition of SMMEs in the SA National Small Business Act

Enterprise	Number of employees	Annual turnover (Rands)	Gross assets, excluding fixed property
Medium	Fewer than 100 to 200 depending on industry	Between R4 million and R50 million depending on industry	Between R2 million and R18 million depending on industry
Small	Fewer than 50	Between R2 million and R25 million depending on industry	Between R2 million and R4 million depending on industry
Very small	Fewer than 10 to 20 depending on industry	Between R200 000 and R500 000 depending on industry	Between R150 000 and R500 000 depending on industry
Micro	Fewer than 5	Less than R150 000	Less than R100 000

Source: Falkena, Abedian, Blottnitz, Coovadia, Davel & Madungandaba (2000).

As mentioned earlier, SMEs face challenges that make them vulnerable and prevent them from attaining growth, especially when they have to participate in PPP projects. These problems range from lack of human resources development, technological capability, access to markets and finance. If left alone SMEs would always find it difficult to penetrate local PPP markets. Having defined SMEs, the following discussion is on the role of SMEs in economic development.

Small and medium enterprises (SMEs) are vital for the development of the economy of any country, especially in the developing world. SME contribution to economic development is through job creation and poverty reduction (Hussain *et al.*, 2012:1582). They provide the potential for women and other traditionally disadvantaged groups to gain access to work under better conditions, to be productive, sustainable and have access to quality employment opportunities (Al-Dairi, McQuaid and Adams, 2012:181). Sometimes it is not feasible for large firms to

produce the goods and services they need as inputs in their production process. The fact that SMEs manufacture these products makes them vital for any economy, as they function as suppliers of intermediate inputs to local firms. It is worth noting that SMEs are faced with the need to overcome significant challenges such as access to finance, skill development and access to markets; however their strategic importance cannot be over emphasised. According to Al-Mubarak and Aruna (2013:157), the following are some of the roles that SMEs play in an economy: (a) they are responsible for growing employment at a faster rate than large organisations (b) they increase the competitive intensity of the market and reduce the monopolistic positions of large organisations; and (c) they encourage the deployment of entrepreneurial skills and innovation. SMEs are therefore effective job creators and are sources of income for a big proportion of a country's population. They provide on the job training opportunities and important basic services for disadvantaged people (UNIDO, 2007). SMEs are a primary vehicle through which new entrepreneurs provide economies with a continuous supply of innovative ideas and skills. According to Hussain *et al.* (2012:1581), the main reason why governments worldwide support SMEs is because SMEs are believed to be making substantial contributions to aggregate economic growth.

The contribution of SMEs to economic growth and development is significant. For example, a study by the Economic Survey of Pakistan 2007–2009 found that in Pakistan, SMEs account for more than 95% of the total number of businesses, and 80% of employment outside agriculture. In Bangladesh, SMEs are estimated to contribute about 50% of industrial GDP and provide employment to about 82% of total industrial sector employment. In Nepal, 98% of industrial establishments are SMEs, while in India they contribute 30% of GDP (Hussain *et al.*, 2012:1581). In Chile, SMEs contribute about 20% of GDP and about 60% of employment. In Malaysia they contribute about 31% to GDP and 58% to employment (Timm, 2012:2). In Turkey SMEs account for 95,5% of businesses operating in the manufacturing sector and provide 66,1% on employment. In Ghana SMEs represent about 92% of businesses and contribute about 70% to GDP (Abor and Quartey, 2010:223). In Malawi they contribute about 38% in employment. In China SMEs are responsible for about 60% of China's output and 75% of employment (Akugri, Bagah

& Wulifan, 2015:262). In Africa and Asia (excluding China) SMEs are estimated to be responsible for about 90% of both rural and urban enterprises (Akugri *et al.*, 2015:262).

A regression analysis by Banerjee (2014:8) which used World Bank's Business Environment Survey (WBES) data collected between 1999 and 2000 in advanced economies, found that employment growth is around 9% greater for SMEs compared to large firms, even after controlling for firm age. The study also found that the employment growth for young firms less than five years old was estimated to be around 18% higher than that of older firms. Although this last point refers to firm age, however, in many cases young firms are more likely to be SMEs. Another study that analysed the employment potential of SMEs using Pakistan's census of manufacturing industries data for the fiscal year 2005/2006, was conducted by Batool and Zulfiqar (2011:442). The study found that the elasticity of substitution between labour and capital was 1,1137, showing that capital and labour are strong and very good substitutes in the production process of SME sector in Pakistan, meaning that, if the price of capital increases while the price of labour remains constant, the quantity of labour will be substituted for capital, and employment may be generated by SMEs in Pakistan. Another study by Criscuolo, Gal & Menon (2014:40) further supported the above findings about employment creation by small firms, analysing data from 18 countries with developed economies covering the period 2001–2011. The study found that young and small firms created far more jobs compared to big and old firms for all 18 countries included in the study. The above findings further confirm the employment generation potential of SMEs.

According to available statistics, in South Africa, SMEs contribute between 27% and 34% of GDP and about 55% of all employment (Timm, 2012:2; Joubert, Schoeman, & Blignaut, 1999:26). Table 3.2 shows the contribution of SMEs in the South African economy. The table shows that the number of SME establishments is high (99,35%); however, their contribution to GDP is low as shown in the table below. The reason for their small contribution to GDP may be that most SMEs operate at the survivalist and micro level thus their contribution to GDP is small. Linking SMEs to PPPs may improve their contribution to GDP and to gross capital formation as this has the

potential of moving SMEs from micro level to at least medium size enterprises and that can change SMEs investment behaviour to reflect their contribution to GDP.

Table 3.2: Contribution of SMEs in the South African economy⁸ (2004)

Contribution to	Percentages
GDP	34
Employment	54
Number of firms	99.3

Falkena, Hawkins, Llewellyn, Luus & Masilela. (2004)

A recent study by Abor and Quartey (2010) estimated that about 91% of formal business entities in South Africa are SMEs and these SMEs contribute about 52 to 57% of GDP and about 61% of employment. As mentioned earlier data on SMEs in South Africa is not consistent from one Author to another and that makes it difficult to know the exact SME figures in the country.

A First National Bank study on total entrepreneurship activity (TEA) in SA⁹, showed that South Africa's TEA in 2008 stood at 7,8% compared to Brazil, 12%, India, 11,5%, Colombia, 24,5%, and Mexico, 13,1% (First National Bank, 2010:6). This is an indication that a lot still needs to be done in South Africa to promote entrepreneurship. As already alluded, one way of promoting entrepreneurship is linking small businesses to PPP projects to provide them with sustainable business opportunities. As discussed in the first chapter, SMEs can provide services such as cleaning services, facility management, laundry, IT, maintenance, catering and other services depending on the nature of the PPP project. In terms of fostering successful new businesses, South Africa is far behind a number of countries like Ghana, Brazil, Zambia and Chile and ranks 35 out of 54 countries that participated in a Global Entrepreneurship Monitor survey of 2010 (J.P. Morgan, 2012). Table 3.3 shows selected countries' ability to foster successful new businesses.

⁸ Statistics on South African SMEs is very old as currently there is no organisation that collects SMEs' data at national level.

⁹ Measured by a Total Entrepreneurship Activity (TEA) index which looks at the percentage of the active population, people between 25 and 64 years who are entrepreneurs in a given country.

Table 3.3: Ability to foster successful new businesses (2010 figures)

	South Africa	Ghana	Zambia	Brazil	Chile
Start up	5	11	17	6	11
New businesses	4	25	17	12	6
Established businesses	2	25	13	15	6

Source: J.P Morgan (2010)

Given the fact that South Africa has implemented a number of PPP projects in the past decade and that many more PPP projects are still in the pipeline, South Africa needs to take advantage of these PPP projects and use them to develop its SMEs sector in order to address its triple challenges of unemployment, poverty and inequality. SMEs development through PPP projects will not happen without support from the public sector and that is why linking PPP projects to SMEs development is vital and it needs to be made a government policy. In the absence of a government policy that will compel PPP projects firms to use SMEs in providing them with intermediate goods and services it will be difficult to achieve a reasonable number of SMEs' participation in PPP projects. The following section discusses common challenges faced by the SME sector around the world.

3.3 Challenges facing SMEs

Due to their size SMEs face problems that make them vulnerable to macroeconomic changes and prevent them from attaining growth, as many business opportunities accrue to big firms, because they enjoy economies of scale and scope. International literature identifies lack of; access to finance, human resources, access to markets and access to technology as the main constraints that hinder SMEs development in many developing countries (OECD, 2006b:4; Ayyagari, Demirgüç-kunt, and Vojislav, 2008:498; Subrahmanya, 2012:298). If left alone, SMEs will always find it difficult to participate effectively in PPP projects. Therefore, using PPPs to support SMEs development is imperative, given their potential contribution to economic growth and development. Following below is a discussion on the different challenges facing the SMEs sector both in developed and developing countries.

3.3.1 Lack of finance

The importance of access to finance for SMEs, especially in developing countries cannot be over-emphasised. Adequate financing is required to help SMEs set up and expand their operations, develop new products and invest in new staff or production facilities (OECD, 2006b:4). Finance is needed by SMEs so they can exploit growth and investment opportunities and acquire more efficient productive assets. An empirical work by Fjose, Grunfeld & Green (2010:20) shows that about 48% of SMEs in sub-Saharan Africa identify access to finance as one of the major constraints to their expansion. SMEs find it extremely difficult to obtain financing from banks, capital markets or suppliers of credit compared to large firms (Hussain *et al.*, 2012:1583). A number of studies have also found that access to finance is a major constrain for the development of the SME sector in many developing countries. Such studies include Fjose *et al.*, (2010), Republic of South Africa. The South African National Credit Regulator, (2011) and Falkena *et al.*, (2004).

Access to financial institutions is important for SMEs. A survey undertaken on financial constraints of the sector in Fiji found that a bank loan was important for SMEs. This was confirmed by the number of SMEs that would have loved to take a bank loan for business expansion. Of those SMEs interviewed and were without a bank loan, 77% indicated that they would borrow from a bank if they could in order to expand their operations. However, an adverse perception regarding loan requirements, costs structures and lack of collateral appeared to keep them away from the banks (Sharma and Gounder, 2012:63; African Development Bank, 2012). A study conducted by SEDA on the needs, stage and performance of SMEs in agriculture, manufacturing, ICT and tourism in South Africa also confirmed that lack of access to finance was one of the main obstacles to SME growth (SEDA, 2012:ii). In sub-Saharan Africa this problem is exacerbated by poorly developed financial markets. The limited financial resources available to SMEs limit their ability to meet a variety of operational and investment needs (AL-Mubarak and Aruna, 2013:159). A study by Ayyagari *et al.* (2008:498) identified finance as one of the major constraints that limit the growth of the SME sector in several countries that participated in the survey. This finding is supported by Fatoki and Odeyemi (2010), who posit that, out

of 445 SMEs interviewed in South Africa, 406 applied for a bank loan, but only 27% were successful. This shows that access to finance is a problem with many SMEs.

3.3.2 Human resources

Human resources consist of education and training provided to employees. Educated employees are not only efficient and productive, but are also innovative. Human resources are a critical feature in the success of any business (Kumar, 2012:116). As Lall (1992:177) asserts:

“... technical competence of an industrial workforce is improved by education imparted by various formal training systems and by in-firm training”.

SMEs that employ highly skilled employees are likely to be more efficient, as they may increase productivity by producing a higher level of output or by producing output of greater value (Cooke, 2000:10). The fact that SMEs operate in a constantly changing environment due to globalisation requires a workforce that has attained a certain level of education (Al-Dairi *et al.*, 2012:182).

A number of studies have recognised the lack of human resources as a major constraint in SME development, especially in developing economies (Salleh, Kasolang & Jaffar, 2012:2291; SEDA, 2012:iv). Human capital is the main factor that affects productivity through the use of technology. For SMEs to effectively use technology, they must have skilled employees (Lall, 1992:166). An empirical study by Salleh *et al.* (2012:343) conducted in 2012 on total quality management in Malaysia, found that the ability to perform work is supported by training and development programmes, job and placement, systematic job development and career planning. In many circumstances SMEs do not have the resources to provide such skills, as they are operating at a smaller scale compared to big businesses that benefit from economies of scale and scope. Another empirical study by Tan and Batra (1996:16) of the World Bank, which analysed the relationship between firm size and its likelihood to provide training to its employees, found that larger firms are more likely to provide training to their employees compared to small businesses. The same study also looked at mean years of education of the workforce and the

proportion of the workforce that is skilled. The results showed that an educated workforce is more likely to receive training than a less educated one. This shows the difficulties that SMEs are facing in terms of up-skilling their workforce.

The lack of resources by SMEs forces them to employ a less skilled workforce, as the educated and highly skilled employees are easily absorbed by big businesses. SMEs struggle to incentivise their workforce to go for further training in order to improve their workforce skill base and education level. A poorly skilled labour force hampers technological diffusion. An empirical work by Lee (2001:127) on developing countries between 1990 and 1996 found that human capacity is a critical factor necessary for global technologies to be effective as a tool of economic growth in developing countries. However, full exploitation of global technologies often requires a highly-trained workforce, which is lacking with many SMEs.

The areas in which SMEs lack the required human resources are in terms of their knowledge and skills of market analysis, marketing and product innovation, as well as business planning and financial management. This calls for governments to develop capacity building programmes aimed at improving entrepreneurial and business management skills to enhance the effectiveness of SMEs to participate in PPP projects (Hussain *et al.*, 2012:1583). However, an empirical study by Heilbrunn, Rozens & Vitner (2011:339) conducted in 2006, based on a survey of 248 businesses, found that efficient SMEs owners did not invest in marketing activities, while the less efficient ones did. Their marketing strategies relied on crisis management rather than being based on a long-term strategy. Although this finding may be true, it is however possible that those efficient SMEs that did not invest in skills development may have been in the business for a long time and as a result had gained substantive experience about the market within which their businesses operate, while the ones that needed training most may be new players in the market.

In order to facilitate the participation of SMEs in PPP projects, human development should be an important factor for SMEs, as nowadays PPP projects involve the use of advanced technologies with which local SMEs may not be familiar. For SMEs to

participate fully in PPP projects they must have the know-how of the latest technologies.

3.3.3 Low technological capabilities

Technological capabilities are imperative for SMEs competitiveness. Technological innovation is regarded as a tool for strengthening the competitiveness of a nation, as it helps in improving productivity (Lee, 2001:115). The increase in the amount of goods and services produced can be achieved through the use of new technologies that reduce production input costs while increasing output per unit of input employed (Tan and Batra, 1996:17). Improving technological capabilities by SMEs can go a long way in improving their profits which are imperative for the future expansion of any business. Technological capabilities benefit SMEs in several ways, namely by enhancing SMEs efficiency, reducing costs, allowing speedy communication with customers, eliminating traditional supply constraints, and broadening market reach, both locally and internationally (Subrahmanya, 2012:298; Hussain *et al.*, 2012:1583).

The knowledge and capabilities of SMEs to adopt technological innovation is limited due to the fact that financial institutions and governments are less supportive to SMEs (AL-Mubarak and Aruna, 2013:156). An empirical work by Pitt and Lee (1980:55) showed that larger firms are more efficient than small firms. This is a clear indication that, as SMEs are small by nature, they suffer from inefficiencies in their production processes and this may limit their potential to make profits. Absence of technological capabilities hinders and discourages SMEs from fully grabbing the benefits of new technologies, including, among others, lack of knowledge, resources and training. Collaboration between SMEs and PPPs can play a critical role in addressing these constraints, as technological capabilities can be transferred from a PPP's workforce to SME employees involved in PPP projects. This can happen because PPPs can set service standards for SMEs. For SMEs to meet these standards, they will need to improve their technological know-how.

3.3.4 Access to markets

Access to markets by SMEs is one of the major constraints that hinders the development of the SME sector in developing countries (Hussain *et al.*, 2012:1584). Even if SMEs can have all the right human capital, access to finance and technological know-how, they can still fail if they do not have access to markets. Large firms and the public sector are reluctant to deal with small businesses that do not have a track record of meeting clients' expectations; as a result SMEs are reluctant to participate in public tenders because they are normally unsuccessful. For example, a study conducted in 2007 to evaluate SMEs' access to public procurement markets in the European Union, revealed that SMEs, in particular micro- and small enterprises, are on average under-represented in public procurement. The amount of public contracts awarded to SMEs does not reflect SMEs' overall weight in the EU economies (European Commission. DG Enterprise and Industry. 2010).

SMEs are often unable to take advantage of market opportunities that require large volumes of production, broad product range and regular supply, because they normally produce at a very small scale. For a firm to penetrate a market, it needs to have information about the market it wants to penetrate and also marketing skills, which are normally lacking with most SMEs (UNIDO, 2007:3). The other challenge for SMEs is that, when they try to participate in bigger markets, they get exposed to a more complex and risky business environment compared to larger firms. This is because SMEs are unprepared and less well-resourced compared to big firms (OECD, 2004:7). According to AL-Mubaraki and Aruna (2013:158), as SMEs are becoming more and more exposed to international markets, they are faced with greater external competition and the need to expand their market share. However, their limited international marketing experience, poor quality control and product standardisation and little access to international partners continue to impede their expansion into international markets. If SMEs were to be given an opportunity to work with PPPs, they will gradually improve their efficiencies and develop to bigger firms that can effectively compete in both local and international markets.

Most of the challenges that are faced by SMEs emanate from the availability of infrastructure, macroeconomic conditions and regulatory institutions. These include, but are not limited to, competition policy, legislative and regulatory frameworks, telecommunication infrastructure, research and education policy. SMEs are not well equipped to address these challenges, as most of these challenges are better addressed by the state (AL-Mubarak and Aruna, 2013:157).

The question that one can ask is: Can PPPs address these SMEs challenges mentioned above? The answer to this question is that PPPs can address these problems but cannot eliminate them completely, as SMEs and government will also need to play their respective roles to deal with these problems. However, PPPs have the potential to make SMEs attractive to banking institutions and financial markets, as PPPs can provide a constant market for the goods and services produced by SMEs, thus creating a sustainable revenue stream. PPPs can contribute to technological skill transfer to SMEs employees involved in PPP projects. Involving SMEs in PPP projects can put SMEs in a better position to expand their operations to other sectors of the economy, as they may have the resources required to get involved in other ventures.

3.4 The potential role of PPPs in addressing the challenges of SMEs

In general, PPPs represent cooperation between the public and the private sector with the intention to develop infrastructure networks and at the same time provide public services. As mentioned in Chapter 2, so far there is no agreed upon definition for PPPs concerning the SME sector, and research on the involvement of SMEs in PPP projects is currently limited, as this area has not been researched in the past. However, Hussain *et al*, (2012:1584) define PPPs for SMEs as:

“... an approach to addressing SME growth problems through the combined efforts of public, private, and developmental organisations.”

Hussain *et al*, (2012) also identify three types of PPPs, namely concession PPPs; the contractual PPPs and the institutional PPPs. The concession and contractual PPPs are more common in the PPP market. The institutional PPPs are more

common within non-governmental organisations (NGO), as these are programme types of collaboration between the public and private sectors and NGOs or other organisations such as community trusts working together to help SME development.

PPPs can be the main users of goods and services produced by SMEs. As SBP (2009) asserts;

“... one of the most obvious and surprising untapped ways that companies can support development objectives in countries and communities in which they operate is through spreading economic opportunities through a variety of small enterprises development, training and business linkage initiative.”

This is the role large PPP projects should play in economies of developing countries. PPPs should use SMEs to provide them with the services they need, while at the same time supporting SMEs with the necessary skills. Many PPP models for developed and developing countries do not mention the use of SMEs as potential suppliers of PPP goods and services and they do not embed SMEs into their PPP project structure. One of the reasons may be that, SMEs lack the technical, financial and technological ability to deliver services required by PPPs, as these services may be required at a larger scale. This may be true if the services required by PPPs are bundled. In a case where these services are unbundled SMEs have the potential to respond to PPPs' requirements. Another reason could be that involving an SME in a PPP is time-consuming and at the end it can increase the PPP project implementation costs, as this may involve a complex restructuring of the project.

The problem with involving a lot of stakeholders in a project is that it may complicate the allocation of responsibilities such as who does what, what is the role of the state officials, what is the role of the SME and what is the role of the private sector partner in the PPP (Ansell and Gash, 2007:556). This is one of the risks that the state and the private partner may need to manage so that it does not negatively affect the private partner involved in a PPP project.

In many cases a PPP is only formed by a private firm and the public agency responsible for the development of an infrastructure asset. Although the South African PPP regulations do not prescribe the size of the private sector partner, in most cases if not all, the private partner is one of the big local or international construction companies. This model has overlooked the potential that PPP projects can have in developing a sustainable SME sector that can create jobs for the unemployed and generate income for the poor, while at the same time addressing the challenge of infrastructure backlog. The role of PPPs in developing the SME sector is also acknowledged by Paolo (1992:232). As Paolo asserts, although having SMEs as subcontractors in big PPP projects is understood as an area of potential growth for developing countries, there is yet no discussion about SME involvement in PPP projects in many countries.

PPPs have the potential to contribute to the development of the SMEs sector. What is needed is a policy that will enforce strong partnerships between government, PPPs and SMEs to the benefit of all parties. For example, when the expanded public work programme (EPWP) started in 2004 its target was to create one million jobs and 3000 SMEs by March 2009. The EPWP exceeded its target by creating 1,617 million jobs, and created 4325 SMEs by the end of March 2009 (Republic of South Africa. Department of Public Works, 2009:110). The infrastructure sector exceeded its target and achieved 127%. It out-performed all sectors involved in the EPWP programme. This is an indication that, if the private sector works together with the public sector to create jobs, a lot can be achieved.

However, it is worth noting that creating jobs through infrastructure using SMEs has its own challenges. These challenges are due to the fact that jobs created through infrastructure projects are short-term in nature, especially during the construction phase of the projects. However, during the operational phase of a PPP project, a number of jobs remain long-term. The other challenge is that SMEs are more likely to utilise labour-extensive production methods and such methods are slow and produce poor quality work compared to capital intensive methods used by big firms. There is also a high risk of projects captured for patronage purposes, as it was detected during the first and second phases of the EPWP. During the

implementation of the first two phases of the EPWP, there were accusations that the selection of EPWP participants was hijacked by politicians for patronage purposes (Republic of South Africa. Department of Public Works. 2014:2). This may happen when SMEs are used to create jobs through participating in PPP projects. One may find that only SMEs that have a strong link with politicians get opportunities to participate in PPP projects. There is also a high possibility of fronting, in the sense that big PPP firms may create their own small companies that will participate in PPP projects as SMEs. If not addressed properly, this can sabotage the whole idea of using PPP projects to develop sustainable SMEs that would create jobs, alleviate poverty and reduce inequality.

Most debates in the PPP arena are about finding the best way of using the private sector to deliver public infrastructure, but little has been said about using PPPs to develop SMEs and create jobs for the poor. This is the missing link that governments can use to boost job creation through SME development. The advantages of PPPs have been advocated only to be in the transfer of financial and non-financial risks to the private party, costs savings, enhanced asset quality and service levels provided to the public, freeing up fiscal funds for other areas of public expenditure etc. (Republic of South Africa. National Treasury, 2004a:4). The development of the SME sector using PPP projects has been ignored by the traditional PPP model followed by most developing countries.

As Hussain *et al.* (2012:1584) assert, PPPs are a source of developing businesses in developing countries. They can be used to achieve developing countries' socio-economic challenges. This calls for a change in the way developing countries see PPP projects. PPPs should be structured in such a way that they benefit (a) the public in general through job creation or development of the SMEs sector, (b) the public sector through the provision of the required infrastructure and (c) the private sector through the continuous business opportunities provided by the long-term nature of PPP contracts. Quite often the general public do not feel or think they benefit much from PPP projects as the current PPP model tend to favour the private sector partner more than the public as a key stakeholder of a PPP project.

In order to ensure that PPPs benefit a wider group of beneficiaries, there is therefore a need for developing countries to develop their own PPP model that will talk or respond to their economic, political and social challenges. The current practice of many developing countries is such that they model their PPP projects based on the PPPs of developed countries. As mentioned in Chapter 1 the reason for this practice is due to the fact that in most cases developing countries structure their PPP projects based on PPP models of developed economies. These models fail to take into account the socio-economic conditions of developing countries. As mentioned in Chapter 1, any PPP model that is to address developing countries' challenges should at least seek to address the triple challenges of developing countries, namely unemployment, poverty and inequality.

The question is how can PPPs assist in developing a sustainable SME sector for developing countries. This can happen when the public and the private sectors jointly bring funding and other resources to implement PPP projects through a Special Purpose Vehicle (SPV). The SPV can then contract SMEs to provide it with the necessary services required by the PPP projects. In this case the SME is guaranteed of a market for its products and a continuous income for the duration of the PPP concession. As mentioned in Chapter 1 the current practice in the South African PPP market is such that the SPV should meet the country's BBBEE requirements. Although small businesses participation in a PPP project is mentioned in the National Treasury PPP Manual, the main emphasis, however, is on black ownership of the SPV (Republic of South Africa. National Treasury, 2004a:291). A PPP collaboration that brings together the public sector, private sector and the SME sector has a better chance of being more effective in fighting poverty, unemployment and inequalities which are most worrying challenges of many developing countries.

PPP projects normally involve big international organisations who possess the know-how of project and business management. SMEs, on the other hand, are small business operations with limited resources such as human capital, technological know-how and access to finance as mentioned earlier. Linking SMEs with PPP projects that involve international organisations can provide other opportunities for SMEs, such as technological transfer, better human capital formation, deeper

international trade integration, and more competitive local SME firms (Klein and Hadjimichael, 2001:2; UNECA, 2009:105). International studies, such as the ones by Elibariki (2007:12) and the World Bank (2004) found that organisations that involve foreign firms as FDIs have a positive impact on productivity and efficiency, therefore on poverty. FDIs do not only bring extra capital but also lead to technological transfer, better human capital formation, deeper international trade integration, a more competitive business environment and increased tax revenue, to name just a few (Klein *et al.*, 2001:2; UNECA, 2009:105). All these add to poverty reduction strategies through increased private consumption.

Having discussed the potential role of PPPs in addressing SMEs challenges, the following section discusses different South African government initiatives to support SME development.

3.5 South African governmental initiatives to support the development of SMEs

The South African government has implemented a number of institutional initiatives that are aimed at supporting the development of the SME sector. The government established SME support Agencies such as Ntsika, which then became Small Business Development Agency (SEDA) and Khula Enterprise Finance to provide funding to SMEs. It also created the Apex fund that provides microfinance loans of less than R10 000. It passed the Small Business Act in 1996, while the broad-based black economic empowerment (BBBEE) codes also stipulates how SMEs should be addressed by big companies (SBP, 2009). Other initiatives include the establishment of the Umsobovu Youth Fund, which now is part of the Youth Development Fund, tasked with promoting job creation, entrepreneurship and skills development for the South African youth. The Industrial Development Cooperation (IDC) also provides funding to SMEs, although its main focus is developing big industrial projects. All these initiatives have not yet yielded the expected national outcome of increasing employment and reducing poverty and inequalities. Since they were implemented, the country's SMEs sector's development is still lagging behind in terms of its contribution to GDP and employment compared with the SMEs sectors of other developing countries. In South Africa, SMEs contribute between 27% and 34% of

GDP and about 55% of all employment, while in other countries like Pakistan, SMEs account for more than 95% of the total number of businesses, and 80% of employment outside agriculture (Timm, 2012:2).

The main agencies and funds of the South African government supporting SMEs are found in five different national departments as listed in Table 3.4 below. The table summarises South African policies and institutional frameworks for SME support, showing the responsible government department or agency and the mandate of the department or agency. The idea of linking SMEs to PPP projects that is being advocated in this research study is expected to build on top of these other government initiatives, as these initiatives aim to address other SMEs challenges that cannot be fully addressed by PPP projects.

Table 3.4: SA Policy and institutional framework for SME support

Department	Agency	Mandate
Department of Trade and Industry	Small Enterprise Development Agency (SEDA)	To support small business development
	National Empowerment Fund	To fund black-owned businesses and empower both small and big businesses
	National Small Business Advisory Council	To advise the Minister on ways to boost support for small businesses
Department of Economic Development	Khula Finance Limited	To supply funding to small businesses. To bridge the funding gap in the SME market not addressed by commercial financial institutions
	Industrial Development Cooperation	To fund industrial projects, but small businesses funding forms a bigger part of its mandate.
	SA Micro-finance Apex Fund (Samaf)	To facilitate the provision of affordable access to finance by micro, small and survivalist businesses
Department of Science and Technology	Technology Innovation Agency (TIA)	To fund innovation for big and small businesses
The Presidency	National Youth Development Fund	To assist the youth with career skills and to help start their own businesses.
Department of Agriculture	Micro-Agricultural Financial Institute of South Africa	To help the working poor's ability to run existing agriculture businesses, to start new ones and be able to develop these into fully commercial operations.

Sources: Republic of South Africa. National Credit Regulator (2011)

As can be seen from the above table, there is currently no support for SMEs that comes from the National Treasury PPP Unit. PPPs have a role to play in supporting small business development. The government needs to make it mandatory for PPP firms to use SMEs in their projects.

It is worth noting that, although linking SMEs with PPP projects is necessary, it is not sufficient for the development of the SME sector. To develop a sustainable SME sector requires other interventions, such as the promotion of an entrepreneurship culture and the development of social capital and networks, the reduction of red tape and the creation of a more enabling environment, including political will to implement policy and improve public sector capacity to respond to the need of the SMEs, and the reduction of crime and corruption (OECD, 2006b:5). Although a number of different interventions have been implemented in South Africa, what may be lacking is a cohesive approach to deal with SMEs challenges.

3.6 Chapter summary

The chapter has defined SMEs and discussed the importance of PPPs in developing a sustainable SME sector. It discussed the role of the SME sector in an economy and the challenges faced by SMEs in developing countries and found that SMEs face four main challenges, namely lack of finance, limited human resources, low technological capabilities and lack of access to markets. It has found that linking SMEs to PPP projects may address some of these challenges to a certain extent, especially if SMEs provide services to PPP projects during the operational phase of the projects, where the services provided will be required for the duration of the PPP project concession.

The chapter also discussed the different South African government's initiatives to support SMEs and found that there are a lot of institutional frameworks that have been put in place to support the development of the SME sector. However, what is needed is a cohesive approach that links all these initiatives together and ensures that they support each other. It has also found that PPPs have not yet been identified by the South African government as one of the initiatives that can facilitate SME

development. Most of the focus on PPP projects is only on ensuring that they include ownership by the previously disadvantaged South Africans.

CHAPTER 4: RESEARCH METHODOLOGY

4.1. Introduction

The objective of the second chapter was to discuss the economics of PPPs by focusing on both costs and benefits of the PPP model and also to discuss the institutional requirements and the regulatory framework for PPPs, which are preconditions for the successful implementation of any PPP programme. The focus of Chapter 3 was to show how PPPs/well-functioning PPP programmes can be used to develop a sustainable SME sector and contribute towards addressing the threefold problem of unemployment, poverty and inequality. Chapter 3 also showed that infrastructure backlog should be viewed as opportunities for the development of a PPP programme that would facilitate the creation of jobs, reduction of poverty and inequality through the development of a sustainable SME sector. The chapter reviewed PPP models for SMEs and could not find any PPP model that was aimed at developing or enhancing the participation of SMEs in PPP projects; however, it identified a number of PPP models meant to develop or provide SMEs with soft skills. These PPP models are called institutional PPP models for SMEs development (Annexure D).

The objective of this chapter is therefore twofold. The first objective is to define the methodology followed for the study. The second objective is to identify the most suitable model to be adopted or used for this study. The chapter also discusses the survey design and the population and sample used in conducting the study. It further discusses the instrument used to collect data, methods implemented to maintain validity and reliability of the data collection instrument and the validity of the outcomes of the survey itself. The last part provides a 'theory and practice' review of different constructs on models – specifically searching for a flexible and more encompassing type of a model for a PPP environment in developing countries but specifically for South Africa.

4.2. Theoretical overview of a research framework

A research framework encompasses a number of steps from the choice of the research topic and methodology to the analysis of data and interpretation of the results. The most important things that a researcher needs to be clear about before embarking on the research itself, is the understanding of the theory behind the research question and the research methodology to be used to answer the question. An appropriate choice of the research methodology or approach has a high likelihood of producing a good quality research. The main factors that influence the choice of a research methodology is the research question as it determines the research approach to be followed (Saunders, Lewis, & Thornhill, 1997:860). Following below is a discussion on the different components of the research framework.

4.2.1 Two types of theorising in research

There are two types of theorising, namely deductive and inductive (Collis and Hussey, 2003:15), and they are found within the hypothetico-deductive research method. According to Sekaran and Bougie (2010:24), the hypothetico-deductive method pursues a step-by-step, logical and rigorous method to find a solution to a phenomenon. As Murnane and Willett (2011:15) assert, theory is imperative in research in that it guides research by providing guidance about the questions to ask, the key constructs to measure and the hypothesised relationships among these constructs. According to Sekaran and Bougie (2010:28), the deductive reasoning, starts with a general theory and then applies this theory to a specific case. Hypothesis testing is deductive in nature because the researcher tests whether a general theory is capable of explaining a particular problem. This is in contrast to inductive reasoning, in which the researcher observes a specific phenomenon and on this basis arrives at a general conclusion.

This research therefore follows the deductive theoretical testing approach, as the aim of the study is to develop an innovative PPP model for the development of SMEs in South Africa that could be adopted in other developing countries too. The research

starts with a general theory and then applies this theory to test whether PPP projects indeed have the potential to contribute to the development of a sustainable SME sector in South Africa.

4.2.2 Research methodologies

Before discussing the different research methodologies, it is imperative to start by defining the word “research”. According to Polonsky and Waller (2011:3), research is:

“... the process of thoroughly examining and analyzing the situational factors surrounding a given problem in order to seek out a solution or alternative solutions to it.”

This definition is supported by Mahlangu (1987:3), who defines a research methodology as the study of the logic or rationale underlying the implementation of the scientific approach to the study of reality. A research methodology tells us how we know what we know other than telling us what we know.

There are mainly two main types of research methodologies, namely quantitative and qualitative methods. Both methods have advantages and disadvantages as they have trade-offs between breadth and depth, and between generalisability and targeting a specific population. Born out of these two research methodologies is the mixed-research method, which combines both the quantitative and the qualitative methods in a single study. Below is a brief discussion of these three methods and showing how and when they are applied in research in general, with the aim of eventually choosing one method to be followed in conducting the research for this study.

4.2.2.1 The quantitative method

Quantitative research is defined as a formal, objective, systematic process to describe and test relationships and examine cause and effect interactions among variables. The distinguishing feature of a quantitative research is the collection of numerical data that can be subjected to statistical analysis. This data may be

collected through surveys (for primary data) or by using historical data kept in a database (for secondary data) (Jonassen, 2001:18; Walker, 2005:572). Data such as sample surveys, collected through the quantitative method, are believed to yield representative and broadly generalisable information about a certain phenomenon of interest (National Science Foundation, 2002:43). As Sale, Lohfeld & Brazil (2002:43) assert, the quantitative approach or paradigm is based on positivism in that it assumes all phenomena can be reduced to empirical indicators which represent the truth. It further assumes that there is only one truth, an objective reality that exists independent of human perception. It is based on the belief that the investigator and the investigated are separate independent entities, such that the investigator can study a phenomenon without influencing it or being influenced by it. This approach is dependent on using large sample sizes compared to the qualitative method to ensure that samples are representatives of the target population (Sale *et al.*, 2002:43). Information collected through the quantitative method is believed to yield more objective and accurate results because it is normally collected using standardised methods of data collection which can be replicated and analysed using sophisticated statistical techniques (National Science Foundation, 2002:43).

4.2.2.2 The qualitative method

On the other hand, information collected using qualitative methods such as group interviews collected from small groups may provide many more clues about the differences in the characteristics of the target population. The disadvantage with this method is that it is limited in the extent to which findings can be generalised beyond the specific individuals included in the group, (National Science Foundation, 2002:43). In short, qualitative methods are most suitable for formative evaluation, whereas summative evaluation requires hard data in the form of numbers. It is worth noting that sometimes the use of both the quantitative and the qualitative approaches is important in better understanding a phenomenon (Warren and Karner, 2010:5). Some researchers view qualitative research results as less reliable than those based on quantitative research. By the same token qualitative researchers believe that figures do not offer enough insight into the issues at hand, because the figures cannot reveal the information underlying them (Verhoeven, 2011:30). This shows that there is no research method that is superior to any other; hence the

combination of both approaches may yield better results than relying too much on just one approach.

The latest development in research is the use of mixed methods that combines both the qualitative and the quantitative method in one study (Sale *et al.* 2002:43;Tashakkori and Teddlie, 1998:3). Below is a discussion of the mixed-method research.

4.2.2.3 Mixed-method research

The mixed-method research, which combines both the quantitative and the qualitative method in a single study is widely practiced and accepted in many areas of research. As stated in Sale *et al.* (2002:43), the arguments for using the mixed method in a single study are based on the understanding that (i) the two methods can be combined because they share the same goal of understanding the world in which we live, (ii) they share commitment to understanding and improving human conditions, a common goal of disseminating knowledge for practical use, and a commitment for rigor, conscientiousness, and critique in the research process, (iii) because in some areas the complexity of a phenomenon requires data from a large number of perspectives, and (iv) researchers should not be pre-occupied with the quantitative-qualitative debate because it will not be resolved in the near future and epistemological purity does not get research done.

There are those who argue against using mixed methods in a single study; the argument is based on the paradigmatic assumptions of the two methods, which indicate that the two methods do not study the same phenomena. Their argument is that quantitative methods cannot assess some of the phenomena that a researcher may be interested in, such as lived experiences as a patient, social interactions, and the patients' perspective of doctor-patient interactions (Sale *et al.*, 2002:43). It is further argued that some of these phenomena cannot be fully quantified and reduced to statistical indicators. Sale *et al.* (2002:43) further assert that “the investigator and the object of study are interlinked so that findings are mutually created within the context of the significance of the situation which shapes the inquiry”. What this says is that combining the two methods can yield some benefits to the researcher,

provided the research question being answered warrants the use of both qualitative and quantitative approaches.

The three methods discussed above can be affected by at least four factors, namely credibility of findings, staff skills, costs and time constraints associated with data collection (National Science Foundation (2002:43).

According to Leedy and Ormrod (2005:106), the following criteria as summarised in Table 4.1 should be used to select the appropriate research approach to be followed for a particular study.

Table 4.1: Criteria for selecting quantitative or qualitative approach

Use this approach if	Quantitative	Qualitative	Choice for this study
You believe that	there is an objective reality that can be measured	there are multiple objective realities constructed by different individuals	Qualitative
Your audience is	familiar or supportive of quantitative studies	familiar or supportive of qualitative studies	Both
Your research question is	confirmatory or predictive	exploratory or interpretive	Qualitative
The available literature is	relatively large	limited	Both
Your research focus	covers a lot of depth	involve in-depth study	Qualitative
The time available is	relatively short	relatively long	
Your ability or desire to work with people is	medium to low	High	Both
Your desire for structure is	High	Low	Both
You have skills in the area of	deductive reasoning and statistics	inductive reasoning and attention to details	Both
Your writing skills are strong in the area of	technical, scientific writing	literary, narrative writing	Both

Source: Leedy and Ormrod (2005:106)

Based on the information contained in the last column of the table above, the research approach adopted for this study is biased towards the mixed-method approach. This is because out of the nine cases, only three are qualitative. The rest of the choices can either be qualitative or quantitative. Secondly, if one reviews the

research problem and questions as stated in Chapter 1 and compare them to the criteria in Table 4.1 above, it is clear that the study focuses on the exploratory and descriptive roles that SMEs can play in PPP projects. The research question and the sub-questions focus on the 'what' and 'how' the meaningful participation of SMEs in PPP projects can be improved in order for the country to receive the full benefits PPP projects can offer. Based on the information contained in Table 4.2, it is clear that this research is geared towards both inductive reasoning with a lot of attention to details and deductive reasoning with the use of quantitative information. The deciding factor in this case is availability of literature on the study topic. As established in the literature review there is limited literature on the participation of SMEs in PPP projects. However, there is relatively large literature on PPP projects and SMEs in general. Based on these characteristics of the study, it is clear that it lands itself very well to the mixed-method research.

4.3 The research approach and design for the study

The approach followed in this study is the mixed research approach as just discussed above. Unlike the quantitative approach, which requires a large data set collected from a large sample, the qualitative approach does not require a large amount of data to have meaningful research results, (Choy, 2014:102). The mixed method is capable of balancing the requirements of both the quantitative and the qualitative approaches and produce meaningful results. A population of 29 PPP projects was not large enough to warrant a quantitative research approach, and the available literature on the role of PPP projects in developing an SME sector is also limited. However, there is enough literature on PPP projects and SMEs in general and the research is based mainly on a survey with a number of open-ended questions and that makes the research approach followed for this study to be a mixed method.

Data for the study was collected through a survey of PPP-operating companies (PPP firms or the private partners), SMEs supplying services to PPP projects and government departments or agencies responsible for the PPP projects included in the research sample. Some secondary data on the growth and employment of SMEs was collected from the Construction Industry Development Board (CIDB), PPP Unit

within the National Treasury and SBP case studies on South African SMEs. The data-collection method employed for this study is a combination of quantitative and qualitative data-collection approaches. Employing both quantitative and qualitative approaches for data collection for a mixed-method research study is supported by a number of researchers, as they argue that “there is now virtually no major problem area that is studied exclusively within one research method as most major areas of research in the social and behavioural sciences now use multiple methods as a matter of course” (Tashakkori and Teddlie, 1998:5). The reason for adopting this approach of data collection was that the targeted respondents were vastly spread across the country, which made conducting face-to-face interviews with some of them difficult or even impossible, given the amount of time and travelling would have been required to reach all the targeted respondents. As a result, a survey was used with a number of open-ended questions as part of the survey instrument to collect primary data from the target population. A survey obtains information from a sample of people by means of self-report, that is, the people respond to a series of questions posed by the investigator or the researcher (Polit and Hungler, 1993:148). The target population comprised of companies operating PPP projects, SMEs and government departments and agencies administering PPP projects. Information was mainly collected through a questionnaire (see Annexure B) distributed electronically to the subjects via a computer assisted-questionnaire by the researcher. This was done to minimise the costs associated with data collection and also to improve the response rate given the fact that the target subjects were distributed all over the country. Some information was collected through face-to-face interviews and some through telephonic interviews.

According to Sekaran and Bougie (2010:103), there are two basic purposes of research, namely, exploratory and descriptive. Exploratory research is undertaken when not much is known about a phenomenon and more information is needed to develop a viable theoretical framework at a later stage. Descriptive research is undertaken in order to ascertain and be able to describe the characteristics of the variable of interest in a situation. A descriptive research provides an accurate portrayal or account of the characteristics, for example behaviour, opinions, beliefs, and knowledge of a particular individual, situation or group, as it is aimed at

discovering new meanings, describing what exists, determining the frequency with which something occurs and categorising information according to the researcher's interest (Walker, 2005:572).

For the purpose of this study, both descriptive and exploratory research methods were used because it was able to provide answers to the main research question which is "*How can the South African government use PPP projects to develop its SME sector to create jobs and alleviate poverty?*" The study is both descriptive and exploratory in the sense that not much is known about the participation of SMEs in PPP projects and their contribution to job creation.

4.4 Research question

The focus of this study is on sustainable development of the SME sector in South Africa through the use of PPP projects and the important role that SMEs play in the economy. This research therefore seeks to find an innovative conceptual PPP model that has a potential to support the development of the SME sector in South Africa.

4.4.1 Main research question and propositions

As discussed in Section 1.12 of Chapter 1, the main research question that this study seeks to answer is: "*How can the South African government use PPP projects to develop its SME sector?*" Hence the main research sub-questions (MRQs) are:

MRQI: *How have PPP projects in the country helped SME development?*

MRQII: *What are the problems or challenges faced by PPP project firms when using SMEs to supply services?*

MRQIII: *How can the involvement of SMEs be increased in PPP projects?*

MRQIV: *Does an appropriate PPP model for increasing the participation of SMEs in PPP projects exist that will respond to the South African economic challenges?*

The above research sub-questions take us to the research propositions. Below is a presentation of the research propositions for this study.

4.4.2 The research propositions

A research proposition is a single potentially testable theory. Building on the main and sub-research questions above, the research seeks to prove or disprove the following research propositions:

- **Proposition one (P 1):** *Contracting SMEs to provide certain services to PPP firms has contributed to the development of SMEs in the country.*
- **Proposition two (P 2):** *PPP firms face different problems when using SMEs to supply goods and services, and lack of skills is the root cause of most of the problems.*
- **Proposition three (P 3):** *There are a number of ways in which the involvement of SMEs in PPP projects can be enhanced.*
- **Proposition four (P 4):** *There is an appropriate model for sustainable SMEs development that can respond to the South African economic challenges.*

4.5 Research setting

The study covered all PPP projects operating within the country. The respondents were divided into three categories, namely those involved with the PPP projects from the government side, those that supplied services to PPP projects (SMEs) and those involved with PPP projects from the private sector side (PPP-operating companies or PPP firms which were responsible for the implementation and operation of the PPP projects). Hypothetically, the expected number of respondents would equal the total number of PPP projects multiplied by two if only two respondents were to be targeted per each PPP project, plus the number of SMEs involved in PPPs. This is based on the assumption that the number of PPP-operating companies equals the number of the PPP projects, which equals the number of government departments responsible for the projects. However, this was not the case, given the fact that in some instances one PPP company managed and operated more than one PPP

project. The same applied to government departments or agencies. The government departments or agencies and SMEs were also included in the sample because the researcher needed to get their perspective on the participation of SMEs in PPP projects.

The government agencies included the National Treasury PPP Unit, which facilitates the development of the South African PPP market and SANRAL and other government departments responsible for PPP projects.

4.6 The study population and the sampling criteria

This section discusses the study population and sampling criteria used to select the population from which the sample was drawn. It also discusses the sampling technique used to draw the final sample for the study.

4.6.1 The sampling criteria

Subjects included in the sample were selected to meet specific criteria. The PPP projects targeted to be part of the sample had to meet the following criteria:

- must be an economic infrastructure PPP project as defined in Chapter 2,
- the contract duration of the project must be not less than ten years,
- the PPP project should have reached financial closure,
- the PPP project should have been operating for at least a year,

The reason for using the above selection of criteria is the fact that PPP projects that have a potential to create jobs through SMEs are infrastructure PPPs that operate for more than ten years continuously providing employment to different individuals. In order to receive meaningful information about the participation of SMEs in PPP projects, the PPP projects must have operated at least a year. This is important, because any PPP project that had not operated for at least a year might not have experienced enough challenges related to operating a PPP project, and that would have compromised the quality of data collected to be used in this study. The same applies to a PPP project that had not reached financial closure, data collected from

such a project would have lacked the required experience of using SMEs in PPP projects.

The government departments or agencies had to meet the following criteria to be included in the sample.

They should have been:

- administering at least one PPP project that was under operation for at least a year,
- involved in PPP projects in different capacities; e.g. facilitating the development of the PPP market or a public partner in the PPP project.

The SMEs had to meet the following criteria:

- should have been supplying goods or services to a PPP project. Only SMEs supplying services to PPP projects that had experience of the challenges faced when dealing with PPPs; and,
- should have supplied PPP projects with services during the construction phase of the PPP.

4.6.2 The study population and sampling technique

According to Burns and Grove (1993:779), a population is defined as all elements (individuals, objects and events) that meet the sample criteria for inclusion in a study. The population for this study consisted of all PPP projects, from the first PPP project in South Africa to the last PPP project that has been in operation for at least a year. These PPP projects covered different sectors of the economy.

According to the PPP unit, there were 22 PPP projects that had reached financial closure and were in operational phase during the course of the study. However, this figure excluded all transport (highways), water and prison PPP projects, as these projects were procured and managed by other government departments and agencies. For example, roads PPPs are procured by SANRAL, while prison PPPs are procured and monitored by the Department of Correctional Services. According

to the department of Correctional Services there are only two prison PPPs in the country, while, according to SANRAL, there are only three road concessions (PPPs: N1, N3 and N4) that fall under its ambit. However, SANRAL also manages other roads projects, referred to as hybrid PPPs, which are also covered by the study. The researcher is aware of only two water PPPs that were operating during the course of this study. There are other PPP projects that are not concessions. For the purpose of this study, these PPP projects are referred to as hybrid PPP projects. They are hybrid in the sense that their procurement and financing is done by the public agent who raises money from the capital markets. Once the project has been completed, it is then handed over to a private party to operate and maintain for a specified period of time. These types of PPPs have become popular in the South African PPP market, especially with roads PPPs.

Through research of related literature, the researcher identified seven more PPP projects, which brought the total number of PPP projects operating during the course of this study to 29 projects. Some of the projects did not qualify to be included in the sample because they did not meet all the conditions stated above. After applying the sampling criteria, only a total of 21 (N) PPP projects cutting across different economic sectors were considered for the study. It is worth noting that there may be other PPP projects that were in operation during the course of this study of which the researcher was unaware of due to the fact that not all PPP projects were registered with or included in the National Treasury's database for PPPs.

From the 21 PPP projects constituting the target population (N), a stratified random sampling approach was conducted. According to Sekaran and Bougie (2010:267), a stratified random sampling"

"... involves a process of stratification or segregation, followed by random selection of subjects from each stratum."

A stratum is a group of mutually exclusive groups of subjects that are relevant, appropriate and meaningful in the context of the study. In a stratum, subjects are grouped according to certain characteristics (Vogt, Gardner & Haeffele, 2012:125).

In this case, the PPP projects were grouped according to economic sectors. This sample approach was necessary to ensure that all sectors covered by the PPP projects were included in the final sample. Mouton (1996:132) defines a sample as elements selected with the intention of finding out something about the total population from which they are taken.

Therefore, six stratified samples were created from the target population of 21 PPP projects. These six strata were equal to the number of sectors in which the PPP projects operated. The 21 projects fell under the management of 18 PPP private sector operating companies and under the supervision of 14 different government departments and agencies. Table 4.2 below shows the number of PPP projects per sector and the number of private companies operating the PPP projects and the government departments or agencies responsible for the projects.

A target of three projects was randomly selected from each stratum using simple random selection, especially those that had at least more than three projects in them. For those strata which had only one, two or three projects in them, all the projects were included in the sample. Therefore, a total of 14 projects constituted the project sample size (n) for the study (see Table 4.2 below). The reason for sampling three projects from each stratum was to allow a good representation of each sector in the sample and avoid a situation whereby the majority of the projects come from one sector and find that other sectors are under or not represented at all.

The reason for having fewer governments departments or agencies and PPP-operating companies than the number of PPP projects is because some PPP-operating companies and government departments or agencies operated and or managed more than one PPP project.

In order to get a balanced view on the participation of SMEs in PPP projects, three individuals per PPP project were approached to answer the questionnaire. The targeted individuals played different roles in the operation of the PPP projects. Their selection was based on the management structure of the project as per each project's governance structure. This made the number of expected respondents from

the private sector companies operating the PPP projects to be 42. Initially, the study targeted to collect data only from the public sector and the PPP firms and later expanded the targets to also include SMEs. Below is a table showing the population, the sample used to collect data from the public and the private sector side of PPP projects.

Table 4.2: PPP projects by sector, private operator and government department

Sector	Number of projects	Number of private companies operating the PPP projects	Number of government departments or agencies responsible for PPP projects	Number of projects included in the sample	Number of private companies Respondents targeted	Number of government targeted respondents
Transport (road and rail)	5	5	2	3	3	2
Nature conservation	1	1	1	1	1	1
Water	2	2	2	2	2	2
Prison	2	2	1	2	2	1
Hospital	7	4	4	3	3	3
Office accommodation	4	4	4	3	3	3
Total	21	18	14	14	14x3=42	12

Source: Compiled from different sources and Author's analysis.

As shown in the above table, the PPP projects population consisted of 21 projects (N) and a sample of 14 PPP projects (n) was drawn from the population. It can also be seen that these 14 PPP projects that made up the sample (n), were managed by 14 PPP private companies (m_1) and 12 government departments or agencies (m_2).

Therefore, $N = 21$, $n = 14$, $m_1 = 42$, $m_2 = 12$ and, Where: N = population size, n = sample size (number of projects), m_1 = number of expected respondents from the private companies operating the PPP projects, m_2 = number of expected respondents from the government departments responsible for the well-functioning of the PPP projects.

The total number of respondents coming from both the private and the public sectors involved in the PPP projects were $54 = 42 + 12 + 14$ ($m_1 + m_2$). Therefore, a total of 54 questionnaires were sent to these target subjects. The sample size of 14 operational PPP projects, 42 private sector individuals involved in PPP operation, and 12 government officials were the total number of private sector and public sector subjects who met the sampling criteria during the period of data collection which took place from 27 February 2015 to 15 April 2015. In addition to the data collected through the survey, a complementary questionnaire was also developed to collect information from SMEs and from specific public sector organisations involved in PPP projects. This was done in order to enhance the quality of data to be used to analyse current practice in using SMEs by PPP project companies. This data was collected from 18 April 2015 to 30 April 2015 (see Annexure C for the second questionnaire). The second survey was aimed at collecting information from five public-sector managers responsible for PPP projects and at least 12 SMEs which were providing services to PPP projects. The five public sector personnel members were targeted because, during the first survey the researcher received few responses from the public sector and the five organisations targeted in the second survey did not respond to the initial questionnaire; these were the organisations which were responsible for major PPP projects in the country. The target was to collect data from at least two SMEs from each PPP sector. The number of SME responses was 13; however, there were some SMEs from other sectors that did not respond to the questionnaire, due to confidentiality concerns about their information. These sectors are conservation and water. SMEs from some sectors gave more than two responses, thus the total number of SMEs responded to the questionnaire was 13.

4.7 Data-collection techniques

The focus of this section is on discussing and comparing the most commonly used quantitative and qualitative data collection techniques in research, namely; surveys, in-depth interviews, focus groups, observations and tests, to name just the main ones. It also gives their respective advantages and disadvantages and a choice of data collection technique for this study is also made. Below is a brief discussion of each of the methodologies.

Surveys: Surveys are more popular form of data collection, especially when collecting data from a large population. They consist of two components, namely questions and responses. The questions are written in a questionnaire which is used as a tool to collect the required information, which can either be mailed to the respondents or collected through face-to-face interviews with the investigator (National Science Foundation, 2002:49).

Interviews: Interviews can either be face-to-face or telephone interviews. They are used when interpersonal contact is important and when opportunities for follow-up of interesting comments are desired (Sekaran and Bougie, 2010:193). Interviews are mainly used under the assumption that the participants' perspectives are meaningful, knowledgeable, and can be made explicit, and that their perspectives affect the success of the investigation (National Science Foundation, 2002:49).

Case studies: Case studies are largely descriptive examinations, usually of a small number of the target population. Case studies may involve searching available documents, holding formal and informal conversation with informants, observe on-going activities, and develop an analysis of both individual and cross-case findings. According to Eriksson and Kovalainen (2011:117) and Stake (2006:vi), case studies are aimed at accommodating diversity and complexity and therefore avoid overly simplistic research designs.

Focus groups: Focus groups combine elements of both interviewing and participant observation. Focus groups are gatherings of 8 to 12 people who share some characteristics relevant to the matter being investigated. The purpose is to capitalise on individuals' dynamics and allow discussions and comments, from personal experience on the topic that is the subject of the research (Eriksson and Kovalainen, 2011:172).

Observations: Data collected through observational techniques are first-hand data on behaviours being studied. The technique provides researchers with an opportunity to collect data on a wide range of behaviours, to capture a great variety

of interactions and to openly explore the subject matter in depth (National Science Foundation, 2002:49).

Tests: Tests are normally used in educational research to provide a way to assess subjects' knowledge and capacity to apply this knowledge to a new situation. Tests provide information on how the target performs against a reference group or normative population. Other tests aim at determining whether or not the target has attained mastery of a skill or knowledge area (National Science Foundation, 2002:55).

Table 4.3 gives both advantages and disadvantages of the different data-collection techniques discussed above.

Table 4.3: Pros and cons of different data-collection techniques

Techniques	Advantages	Disadvantages
Surveys	good for gathering descriptive data, can cover a wide range of topics, are relatively inexpensive, can be analysed using a variety of existing software	Self-report may lead to biased reporting, data may provide a general picture but lack depth; may not provide adequate information on context.
Interviews	usually yield richer data, permit face-to-face contact with the respondent, provide opportunity to explore questions in depth, allow interviewer to experience the affective as well as cognitive aspects of responses, allow interviewer to be flexible in administering interview to particular individuals or in particular circumstances.	expensive and time-consuming, need well-qualified, highly trained interviews, respondents may distort information through recall error, selective perceptions, desire to please interviewer, flexibility can result in inconsistencies across interviews, volume of information very large, and may be difficult to transcribe and reduce to meaningful information.
Case studies	provide a rich picture of what is happening, as seen through the eyes of many individuals, allow a thorough exploration of interactions between treatment and contextual factors, can help explain changes or facilitating factors that might otherwise not emerge from the data collected.	require a sophisticated and well-trained data collection and reporting team, can be costly in terms of the demands on time and resources, individual cases may be over-interpreted or over-generalised.
Focus group	provide richer response or new and valuable thoughts, depth of individual responses, an acceptable number of target respondents can be assembled in one location, quick way of collecting information	the volume of issues to cover is not extensive, need highly skilled staff to control and manage groups, a single subject area is being examined in depth and strings of behaviours are less relevant
Observations	provide direct information about behaviour of individuals and groups, allows evaluator to enter into and	expensive and time consuming, need well qualified, highly trained observers or experts, may affect

	understand situation/context, provide good opportunities for identifying unanticipated outcomes, exist in natural, unstructured, and flexible setting.	behaviour of participants, selective perception of observer may distort data, behaviours observed may be atypical.
Tests	provide objective information on what the test taker knows and can do, can be constructed to match a given circumstance, can be scored in a straightforward way, are accepted by the public as a credible indicator	may be over-simplified, may be very time-consuming, may be biased against some groups of test takers, may be subject to corruption via coaching or cheating

Source: National Science Foundation (2002:49) and Sekaran and Bougie (2010:187).

These data-collection methods or techniques can be applied either in quantitative or qualitative research. However, most of them are mostly used in qualitative research, except the survey approach, which is used mainly in a quantitative or descriptive research method. However, this does not mean that the survey approach cannot be applied to a qualitative research approach method as is the case in this study.

4.8 Data-collection method and procedure used for the study

Generalisation about a population from data collected using any sample is based on probability. The larger the sample size, the lower the likelihood of error of generalising findings to the larger population. Therefore, the final sample size is a matter of judgement rather than calculation (Saunders Lewis and Thornhill, 1997:127). As a rule of thumb, a sample size of 30 is considered a minimum for statistical analyses, provided a random sample technique is applied in the sampling process (Saunders *et al.*, 1997:128). If the population is less than 30 and you wish to undertake a detailed statistical analysis, one should collect data from all members of that population.

Following is a discussion on the data-collection method and procedure followed for this study and a discussion on the questionnaire design and the type of information collected through the questionnaire.

4.8.1 Data-collection method and procedure

As discussed earlier, the study was based on primary data collected from officials working for government departments or agencies, SMEs and officials working for PPP-operating companies included in the research sample using a questionnaire.

There are, in fact, two types of data, namely primary and secondary data. Sekaran and Bougie (2010:185) refer to primary data as information obtained first-hand by the researcher on the variables of interest for the specific purpose of the study and to secondary data, as data gathered from sources that already exist.

One form of a data-collection instrument was used for this study, namely a questionnaire. According to Sekaran and Bougie (2010:197), a questionnaire is a:

"... reformulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives."

A questionnaire can be administered personally, mailed to the respondents or electronically distributed. The advantage of a personally administered (face-to-face) questionnaire is that the researcher can collect all the complicated responses within a short space of time as he/she can explain complicated questions to the respondents. Although personal interviews (face-to-face interviews) offer the opportunity to use multiple methods of data collection, such as observations and visual cues (Fowler, 1993), they require more persons' time and travel, and that may make it more costly compared to mailed/electronic questionnaires. In addition, certain populations are more difficult to reach due to physical factors and other constraints (Fowler, 1993). For the purpose of this study, a mailed questionnaire was used. The advantage with mailed or emailed questionnaires is that it can reach or cover a wide geographical area in the survey which addresses one of the challenges of this study's. One disadvantage with mailed/emailed questionnaire is that any doubt that may be encountered by respondents may be difficult to clarify within a short space of time. In this case valuable information may be lost, as answers may be too brief (Saunders *et al.*, 1997:245; Burns and Grove, 1993:370). When collecting data using mailed/emailed questionnaires, a 30% response rate is normally considered acceptable (Sekaran and Bougie 2010:197). However, the response rate can be improved by notifying the potential respondents in advance about the questionnaire or survey to take place.

In this study, the potential respondents were notified in advance during a telephonic discussion with the target organisations. The discussion was about identifying the relevant persons within each of these organisations that could answer the questionnaire. During this consultation process, the researcher discussed the study objectives with the potential respondents, notifying them that a questionnaire would be sent to them immediately to gather information on the potential role that can be played by SMEs in PPP projects. This process was also followed for the supplementary questionnaire.

Although face-to-face interviews produce a better return rate than mailed questionnaires, nonetheless face-to-face interviews were not suitable for this study, given the geographical location factors of the subjects. It would have been difficult and costly to reach all the targeted subjects, in view of the fact that the study covered all PPP projects in the country. The concern of using mailed questionnaires to collect data was also mitigated by the fact that most of the questions in the questionnaire were closed-ended questions, as respondents were asked to select from a range of predetermined answers, and that reduced the possibility of respondents giving brief answers.

The questions in the questionnaire were divided into close-ended and open-ended questions. Open-ended questions do not suggest answers to the respondent as they call for the respondent's free response in his/her own words. In closed-ended questions a list of suggested or possible responses is provided. In these types of questions the researcher must make provision for responses which might not be anticipated. Closed-ended questions are easy to fill, take little time, keep the respondent on the subject, are relatively objective and easy to tabulate (Burns and Grove, 1993:370; Mahlangu, 1987:79). The first questionnaire of this study included mainly close-ended questions and only four open-ended questions. In the open-ended questions the respondents were required to respond in greater detail giving their opinions about their understanding of the subject matter, whereas in the closed-ended questions respondents had options which were determined by the researcher. However, in the supplementary questionnaire (second questionnaire) all questions were open-ended questions (see Annexure C). This was done in order to get more

information on specific issues affecting SMEs in PPP projects to close the information gap identified in the first questionnaire.

4.8.2 The design of the measuring instrument

This section describes the design of the measurement instrument, which is the questionnaire. Researchers have highlighted important attributes that a measuring instrument should have, including showing clearly what it seeks to obtain from respondents, how it should be structured and how the flow of questions should be maintained. Proctor (2000) noted that generally measuring questions seek to obtain the following information: (i) facts and knowledge represented by beliefs and perceptions, (ii) opinions about an object of study and its properties, (iii) motive of e.g. action, behaviour or choice, and (iv) past and future behaviour, decisions or actions. When constructing a questionnaire, Saunders *et al.* (1997:263) emphasise the importance of ensuring that the flow and order of the questions is properly considered and that they should be logical to the respondent rather than following the order of your data requirements. The inclusion of filter questions is normally recommended in improving the flow of the questions. Filter questions help identify those respondents for whom the following question or questions are not applicable, so they can skip those questions. According to Saunders *et al.* (1997:264), the order of the questions should be such that the first questions of the questionnaire are straightforward questions and the ones that respondents will enjoy answering. Such questions should be those that deal with the respondents' attributes and behaviour rather than attitudes and beliefs, which may be difficult to answer. The middle part of the questionnaire should deal with more complex questions and topics. Saunders *et al.* (1997:264) argue that at this stage most respondents should be completing the survey with more confidence but not yet bored or tired. The last part of the questionnaire, or towards the end, the questionnaire can introduce personal and sensitive questions. However their purpose should be clearly explained, as respondents may refuse to answer such questions (Mahlangu, 1987:81). The researcher should also ensure that all the questions in the questionnaire are grouped into obvious sections which will make sense to the respondent. This approach is referred to as *section layout approach*. The other approach is called *funnel approach*, where measuring questions move from being general to specific (or wide

to narrow). In any research it is possible to combine the two approaches, while maintaining a dominant approach. The dominant approach adopted in the design of the questionnaire used for this study is the sections layout approach. The layout of the questionnaire is discussed below, beginning with the introductory letter to the instrument and then the description of the instrument/questionnaire.

4.8.3 The introductory letter and the questionnaire

Self-administered questionnaires should be accompanied by a covering letter which explains the purpose of the survey. The covering letter forms the first part of the questionnaire that a respondent should look at and decide whether or not to answer the accompanying questionnaire. It is important to carefully choose the right wording for the covering letter, as a poorly-worded letter can negatively affect the response rate (Saunders *et al.*, 1997: 266). The first main purpose of the covering letter is to introduce the researcher to the participants. Secondly, it describes in detail the purpose of the study in clear and simple manner in order to place the respondent in the right frame of mind before starting to answer the questions in the questionnaire. Thirdly, it explains why and how the respondents were selected, for example in this case they were selected based on their experience in PPP projects. Such explanation instils confidence in the respondents and avoids a perception of being targeted for some sinister motives, especially if the study subject matter is a sensitive one. Fourthly, it is civil and ethically correct to ask for their participation in completing the questionnaire and to request for compliance with the instructions. Saunders *et al.* (1997:266) also emphasise the importance of explaining to the respondent why they are important and how long it will take to complete the questionnaire. The cover letter should also ensure confidentiality of the collected information, and contain information on how the results will be used and whom to contact if there are any queries.

Confidentially means that, although the respondent may be known to the researcher, the names and hence the responses are not divulged to a third party. The cover letter should also indicate to the respondent what to do with the questionnaire once

answered, for example, post or email it to wait for the collection of the instrument (see Annexure A for the cover letter).

The questionnaire: The questionnaire is the measuring instrument used to collect data for this study. It consisted of three main sections, namely; classification, current industry practice and the respondent's opinion regarding SMEs participation in PPP projects. Each section focused on obtaining information on a particular issue of the research questions (see Annexure B). Below is a discussion on each of the sections of the questionnaire.

Section A: Classification questions (Questions 1–7): All the questions in Section A were aimed at obtaining information on the level of experience that the respondents had on PPP projects and also to identify those who had experience in both the public- and the private-sector side of a PPP project. This information helped the researcher to assess the quality of information collected from the respondents. Highly skilled and experienced respondents are more likely to give high quality information compared to the less experienced ones.

Section B: Current industry practice (Questions 8-37): Section B questions focused mainly on obtaining information on whether small enterprises (SMEs) currently play a role in PPP projects in South Africa or not. It also sought to collect information on the types of services SMEs provide to PPPs and challenges faced by SMEs working with PPP firms. This information was necessary, because it answered the first main research sub-question: “*How have PPP projects in the country helped SME growth?*” After analysing the information collected under this section of the questionnaire the researcher was in a position to answer the third research question of the study which is “*How can the involvement of SMEs be encouraged in PPP projects?*”

Section C: Respondent's opinion regarding SME participation in PPP projects (Questions 38 – 39): Section C questions (the open ended questions) focused mainly on obtaining data on the respondents' opinions regarding the participation of SMEs in PPP projects. This introduces another approach to the data collection

instruments, as open-ended questions are mainly used for qualitative research. As Tashakkori and Teddlie (1998:95) assert, combining both data collection approaches should be encouraged in research because each of these approaches alone may be insufficient to collect the required data; thus using both approaches provided richer data than either approach. In this case the information collected through the open-ended questions was important because it was aimed at soliciting unrestricted information from the respondents, with the aim of addressing the second main research sub-question: *“What are the problems or challenges faced by PPP project firms when using SMEs to supply services to PPP projects?”*

The analysis of the information obtained in Sections A, B and C of the questionnaire showed clearly where the weaknesses of the traditional PPP model and the current South African PPP model were and that helped the researcher to answer the third research question, which is *“How can the involvement of SMEs be encouraged in PPP projects?”* The answer to the third research question formed a base for the development of the appropriate PPP model for sustainable SME development that will respond to the South African economic challenges of unemployment, poverty and inequality.

The questionnaires were distributed to the target sample using a computer-assisted program called *survey-monkey*, designed to collect data through an electronic questionnaire. The questionnaire was written only in English. The researcher also gave assurances to the respondents that their answers would not be linked to them at the stage of data analysis, therefore ensuring anonymity.

4.8.4 Data-collection procedure

The data-collection process took place between 27 February 2015 and 31 April 2015. The questionnaire was first developed by the researcher and evaluated by a statistician and signed-off by the supervisor. Contact details of potential respondents were searched through the internet and websites of the organisations, while others were collected from the National Treasury's PPP Unit website. A research sample was then determined, as discussed in Section 4.6.2. Phone calls were made to the PPP-operating companies, SMEs and the different government departments

responsible for the PPP projects to identify the relevant persons within the respective organisations that would respond to the questionnaire. After the relevant respondents were identified and confirmed, the researcher then made direct contact with the relevant potential respondents to discuss the need for the data and the objective of the study. Through these discussions email addresses of the potential respondents were obtained. All potential respondents were notified that a computer-based questionnaire would be emailed to them.

A website link, containing the questionnaire was emailed to all potential respondents that formed the sample and they were given approximately 30 days, ranging from 27 February to 30 March 2015, to respond to the questionnaire

As discussed above, after identifying the relevant persons to answer the questionnaire, the researcher discussed the nature and the purpose of the questionnaire with the respective individuals. The researcher also requested that the questionnaire be answered by at least three people from the PPP organisations in order to obtain a balanced view or responses from the experiences of the different individuals on the use of SMEs in PPP projects. In the email sent to the potential respondents, the researcher first acknowledged the telephonic discussions with the potential respondents and thanked them for agreeing to respond to the questionnaire. This was done in order to encourage a high response rate.

At the end of the 30 days, which was 30 March 2015, only 20% of the responses were received. The researcher identified all those who did not respond to the questionnaire and made follow-up calls, first by calling each one of them and requesting that they respond to the questionnaire, as they had agreed to do so during the initial telephonic discussion with the researcher before the questionnaire was sent to them. At this stage some of the respondents did not agree that the questionnaire should be answered by more than one person in the organisation as the researcher had requested. They argued that it would not make sense because the responses would be the same. The researcher could not force those respondents to give the questionnaire to more than one person in the organisation, but accepted their argument, even though the researcher did not believe that was a

valid argument. After the telephonic reminders the researcher again sent emails as a follow-up to the telephone discussion and gave the respondents four days to respond. After the four days the responses increased to 28%, and further email reminders were subsequently sent to the outstanding respondents, after which the response rate increased to 37%. The researcher continued calling and sending emails to the respondents for another two weeks, until 15 April 2015. This means the data-collection exercise took six weeks based on the first questionnaire. At the end of the sixth week the response rate increased to 61%. It was at this stage where the researcher realised that some of the potential respondents were not going to respond to the questionnaire and as a result the survey was closed¹⁰. The researcher then evaluated the results of the survey and decided to supplement the survey results by developing another questionnaire which was meant to collect data from SMEs and specific public-sector organisations. This data-collection exercise targeted mainly government departments and agencies that had a high number of PPP projects which were already at the operational phases and SMEs which were providing services to PPP firms. This was done after realising that specific information was needed to be collected from SMEs and from certain public-sector organisations that did not respond to the first questionnaire, as most of the responses received came from the private-sector partner and other government agencies and departments. The aim for the second data-collection process was to have face-to-face interviews with at least five public-sector personnel (see Annexure C for the second questionnaire) and have a questionnaire sent to at least 12 SMEs. The target was to interview at least five public-sector personnel involved in PPP projects and 12 SMEs providing services to the different PPP firms operating in the different sectors, as shown in Table 4.2. This exercise took two weeks, from 18 April 2015 to 30 April 2015. Although all five public-sector targeted respondents were interviewed, the face-to-face interviews did not happen with all of them due to difficulties in securing appointments with the respondents. The same applies to

¹⁰ *Although the response rate was 61%, the responses received by the researcher covered all the different PPP projects included in the sample. This means that the data collected was still a good representation of the PPP projects in the country. Furthermore, the supplementary questionnaire used to collect additional data from five more organisations, also improved the data quality used for the study.*

SMEs respondents, due to geographical location of some of these SMEs. However, the researcher was able to have face-to-face interviews with two SMEs. This helped the researcher obtain in-depth information about the working of SMEs in PPP projects. The researcher then decided to allow those who could not find time to have a face-to-face interview with the researcher, to just answer and email back the electronic questionnaire which was emailed to them by the researcher. Three of the public sector respondents answered the electronic questionnaire, one respondent gave a face-to-face interview and the fifth one gave responses through a telephone interview. The questions in the second questionnaire were different from the ones in the first questionnaire. This was done because the researcher wanted to obtain specific information on specific issues regarding the reason why the public entity opted to use PPP projects to deliver public infrastructure to its citizen instead of following the traditional infrastructure procurement approach. The data that the researcher needed to collect from the SMEs were mainly on the employment growth for SMEs contracted to PPP projects. The researcher received 11 responses from the SMEs through the electronic questionnaire. In total the researcher received 13 responses from SMEs and 5 responses from government agencies during the second survey. This means that the 61% response rate on the first questionnaire was enhanced by the response to the supplementary questionnaire. The data-collection exercise for both phases took approximately two months, from 27 February 2015 to 30 April 2015.

4.9 Response rate

A response rate is the total number of responses divided by the total number in the sample minus ineligible and unreachable respondents. Normally, the response rate of data collected from a secondary source, especially within an organisation that has granted a researcher access to its information, can be as high as 100%. In contrast, a response rate from a sample to which one will be sending a questionnaire or doing interviews is in most cases lower than when secondary data are collected. According to Saunders *et al.* (1997:129), for a postal survey, a response rate of 15 to 20% is possible. However, other researchers assert that a response rate of about 50% for postal surveys and 75% for face-to-face interviews is acceptable. This shows that the response rate can vary considerably when collecting primary data, depending on

the data-collection method used. In a case where the target respondents are senior executives of companies, one should expect a lower response rate than when the target respondents are just general employees.

The response rate for this study was 61% for the first questionnaire which targeted 54 respondents. This information was supplemented by the responses received from the second questionnaire, where five more public sector responses and 13 more SMEs were received. The total number of PPP projects that were targeted for the study was 21 projects (see Section 4.6.2). After applying the sampling method the final sample size consisted of 14 PPP projects. The total number of respondents expected from the PPP private companies and the public sector was 42 and 12 respectively. Therefore, a total of 54 responses was expected for the study. Out of the 54 potential respondents that were targeted by the researcher, 33 responded by submitting an answered questionnaire to the researcher. This translates to a 61% response rate. The responses were received from all the 14 PPP projects which were targeted by the researcher.

This was a fair response rate, given the fact that for this study, data were collected from senior managers of the organisations that formed the population sample. For example, 84,9% of the responses came from operation/senior management level to chief executive officers/directors and managing directors of PPP companies. Only 15,1% of the responses came from advisors' level. The information on the second questionnaire was collected from senior government employees, from directors to chief directors' level and senior managers of SME firms.

Out of the 42 potential respondents from the private sector PPP companies, 21 responded by answering the questionnaire, in contrast to the private sector responses, where 100% responses were received from the public sector respondents. Although the response rate for the PPP companies was not 100%, the responses were received from all the sectors and PPP projects that constituted the sample. Therefore, the response rate from the private sector constituted 64% of the total responses for the study (21 responses out of a total of 33 responses) and the public-sector responses constituted 36% of the total response rate for the study,

which was 61% (33 responses out of 54 targeted responses). For SMEs that were targeted, 13 SMEs responded to the questionnaire. Most SMEs were reluctant to respond to the questionnaire, claiming confidentiality of the information.

4.10 Data reliability, validity, credibility and analysis

This section discusses measures that were put in place in order to ensure that the data collected was reliable, credible and valid. This was important, as all the data featured would ensure the reader of the study that the conclusions made in the study were valid and credible and could be used for inference purposes.

4.10.1 Data reliability and validity

Polit and Hungler (1993:445) refer to reliability as the degree of consistency with which an instrument measures the attributes it is designed to measure. Reliability can also be ensured by minimising sources of measurement error such as data-collector bias. Data-collector bias was minimised by the researcher being the only one to administer the questionnaires and standardising conditions such as exhibiting similar personal attributes to all respondents. The questionnaires were emailed to all potential respondents as indicated in the sample and a letter explaining the objective of the study and the treatment of confidential information was also emailed to all subjects by the researcher.

All subjects were first given two weeks to respond to the questionnaires and email the questionnaire back to the researcher. This allowed the respondents enough time to answer the questionnaires without being put under too much pressure. The answered questionnaires revealed consistency in responses.

4.10.2 Validity

The validity of a study can be categorised into instrument validity, external validity and internal validity, where instrument or questionnaire validity in this case refers to the degree to which an instrument measures what it is intended to measure (Polit and Hungler, 1993:448). External validity refers to the degree to which the results of the study can be applied to the general population of interest. This type of validity is

mainly affected by the way in which subjects to participate in the study were determined. Validity can be improved by the use of randomisation procedures that limit potential bias in subjects' selection. In the case of this study all PPP projects that met the set criteria were given an equal chance to be included in the sample, as a random sample approach was used; therefore this concern was not relevant for this study.

Internal or content validity refers to the credibility of the study and is determined by the degree to which conclusions drawn from the study correctly describe what actually transpired during the study (Kallet, 2004:1230). To achieve content validity, the questionnaire that was used to collect the data included a variety of questions on the knowledge of PPPs and SMEs in general and the role of SMEs in PPP projects in particular. It also asked questions related to respondents' experience in and knowledge about PPPs and SMEs.

The questions contained in the questionnaire were based on information gathered during the literature review to ensure that the questions were comprehensive enough to cover all attributes of PPP projects and the role that SMEs could play in PPP projects. The questions were formulated in simple English for ease of understanding and a clear introduction, and the purpose of the study was clearly explained to the subjects. The draft questionnaire was then given to a statistician and a demographer at Statistics South Africa (STATS-SA), who had worked on census questionnaire design and census data analysis to make inputs into the final questionnaire. As a result, some questions were rephrased and others were deleted, while new questions were added to the questionnaire. New response choices were added to the closed-ended questions to provide for meaningful data analysis.

According to Burns and Grove (1993:373), data collected for a study also need to be evaluated for external validity. In a case where the number of persons approached to participate in a study declines, generalising the study findings to all members of the population becomes difficult to justify. For this reason the data-collection process needs to be properly planned to limit a decline in the number of participants willing to participate in the study. The number of persons who were approached and refused

or failed to return the questionnaire should be reported so that threats to external validity can be judged. According to Burns and Grove (1993:270), as the percentage of those who decline to participate, increases, external validity decreases. In the case of this study, 54 subjects were approached and 33 subjects responded positively to the request and furnished the required information based on the first questionnaire. In addition to the 33 subjects who responded, a supplementary questionnaire was also developed as discussed above, to enhance the data quality, and five more public sector and 13 SMEs respondents answered the questionnaire (see Annexure C).

4.10.3 Pre-testing the questionnaire

A pre-test refers to a trial administration of an instrument to identify its shortcomings. It is done by giving the questionnaire to a few individuals who are part of the target subject to answer the questions. It is always advisable to pre-test a questionnaire in order to determine whether the questions and directions are clear to the subjects and whether respondents will understand what is required from them. For the purpose of this study, the researcher presented the questionnaire to three respondents included in the study sample. All of them answered all questions and no single question was changed following the pre-test.

4.10.4 Ethical consideration

Conducting research requires not only expertise and diligence, but also honesty, integrity and respect for the right of the other party participating in the study (Fouka and Mantzourou, 2011:4). To render a study ethical, the right to self-determination, anonymity, confidentiality, scientific honest and informed consent should be observed. For the purpose of this study, only confidentiality, informed consent, anonymity and scientific honesty were applicable.

Polit and Hungler (1995:139) and Fouka and Mantzourou (2011:6) assert that, when subjects are promised confidentiality, it means that the information they provided will not be publicly reported in a way that identifies them. In this study confidentiality was maintained by keeping the collected data confidential and not revealing the subjects

and the companies' identities when reporting or publishing the study, as there were no subjects and companies' names written on the questionnaires.

Scientific honesty was also maintained. Scientific honesty is a very important ethical responsibility of the researcher when conducting research. Dishonest conduct includes manipulation of design and methods or manipulation of data (Brink, 1996:47; Fouka and Mantzorou, 2011:8). The researcher avoided all forms of dishonesty by recording, filing and entering all the data collected into a computer software programme for data collection called *survey-monkey*. The open-ended questions which were analysed by the researcher were also checked by the supervisor for confirmation of credibility.

4.11 Data analysis

After the data were collected it was organised and analysed using Microsoft Excel. Descriptive statistics were used to analyse the data. Frequency tables were drawn, and from these the data were presented in pie and bar charts. Percentages were often used to show the general trend or direction of a practice, and attitude or attribute of the different respondents. Using descriptive statistics and a combination of quantitative and qualitative information to analyse the survey results was appropriate for this study, as the size of the data could not allow the researcher to use empirical or statistical models, which require a large sample to have a meaningful analysis. Due to the fact that there were not many PPP projects in the country during the study period from which data to apply the quantitative approach could have been collected, the mixed-method approach became a natural alternative for this study. The open-ended questions were analysed through quantitative concept analysis with the aim of quantifying emerging characteristics and concepts. Concept analysis is the concept of analysing verbal or written communications in a systematic way to measure variables quantitatively (Polit and Hungler, 1995:698).

The following section therefore seeks to identify the type of model that can be used to develop the appropriate PPP model for developing a sustainable SME sector.

4.12 Identifying the type of model approach appropriate for this study

During the literature review on PPP models for SME development the researcher could not identify or find any PPP model whose objective is to increase the participation of SMEs in PPP projects or in infrastructure projects in general. Most of the PPP models identified were more institutional PPP models for SME development (see Annexure D). The objectives of these models are to assist SMEs with soft skills but not to partake in PPPs or infrastructure projects. The objective of this section is therefore to provide a ‘theory and practice’ review of different constructs on models – specifically searching for a flexible and more encompassing type of model for a PPP environment in developing countries, and more specifically, for South Africa. The aim is to identify the type of model or model approach that can be used to develop the model to be proposed in Chapter 7.

In order to achieve the study’s objectives, the data collected based on the research method or process just discussed above need to be analysed and used in the model to be identified for this study to inform the development of the appropriate PPP model for sustainable SME development to be proposed in Chapter 7. This section therefore starts by defining models, followed by a discussion on the different types of models used in social science, with the aim of finally identifying the type of model that may be used to develop the PPP model to be recommended or proposed by the study.

4.12.1 Types of models and the choice of a model to be used for the study

Models are used in almost all research fields, and they differ according to what they are meant for. Some models are quantitative, while others are qualitative. According to Jonassen, Strobel & Gottdenker (2005:18):

“... models are conceptual systems consisting of elements, relations, operations, and rules governing interactions that are expressed using external notation systems.”

Schwaninger and Groesser (2008:4) define a model as a conceptual construction of an issue under study or a construction of a subjective reality. Samuelson and Nordhaus (1998) give a broader definition of a model and define a model as a formal framework for representing the basic feature of a complex system by a few central relationships, which may take either the form of graphs, mathematical equations, or computer programs. This definition appears to be covering a wide enough range or types of possible models that may be used in different research fields.

International literature identifies two classes or clusters of models, namely mathematical or statistical models and schematic or conceptual maps. Models such as flow charts, graphs, scatter diagrams and mind maps fall under the conceptual model cluster (Kaewsuwan, 2002:40). According to Rodgers (2010:1), a mathematical model is a set of assumptions together with implications drawn from them by mathematical reasoning evaluated using statistical modelling procedures. A conceptual model or framework, on the other hand, is a visual representation of the elements of an untested theory that explains the key factors, concepts or variables and their presumed inter-relatedness (Weideman and Kritzing, 2003:5). Conceptual models/maps are subjective representations of their creator's knowledge or understanding of a phenomenon, as two individuals may construct two different frameworks on the same topic depending on their understanding and interpretation of the topic (Derbentseva and Mandel, 2011:3).

Within the mathematical cluster of models, there are a number of different types of models, namely economic, scientific, empirical, simulations and computer models to name but a few. All these models are fundamentally the same, as they are all based on mathematical equations evaluated using statistical techniques. Table 4.4 below gives a summary description and uses of these different models.

Table 4.4: Different types and uses of models

Model	Description	Uses
Visual models	These are pictures of an abstract phenomenon or economy, graphs with lines and curves that tell an economic story. They employ a visual device to present a general economic concept. Most of these models are visual extensions of mathematical models. Implicit in their structure is an underlying mathematical model. Sometimes when they are explained the mathematics is explained, sometimes it is not. Although these types of models are easy to understand, they are limited in their scope of application.	They are used to show interrelationships between economic variables, for example, to show the effect of inflationary expectations on price and output.
Mathematical models	The mathematical model is the most formal abstract of the phenomenon. It is a system of simultaneous equations with an equal or greater number of variables. The manipulation of such models requires a good knowledge of mathematics. Variables within the model can either be classified endogenous or exogenous. Endogenous variables are those that are determined within the model, or by the model's solution, whereas exogenous variables are those that come outside the model.	Mathematical models are used mainly for conducting sensitivity analysis. For example, they try to answer questions such as "What will happen to inflation if income rises by 1%?"
Empirical models	These types of models are basically mathematical models designed to be used with data. In empirical models, data is gathered for the variables using accepted statistical techniques, the data are used to provide estimates of the model's values. In answering the question: "What will happen to inflation if income rises by 1%?", the purely mathematical model might only allow the analyst to say "logically it should rise" On the other hand, the empirical model would allow the analyst to use actual historical inflation data, income and other variables in the model to say that, based on the model estimate, investment should rise by about 3%.	Both mathematical and empirical models are used mainly for conducting sensitivity analyses. However, the empirical model gives a precise estimate of how sensitive a variable may be, given a change in another variable in the model. They are heavily dependent on data availability.
Simulation models	These types of models embody the very best features of mathematical models without requiring the user to be proficient in mathematics. They are basically mathematical models; the only difference between a simulation model and a mathematical model is that in a simulation model the equations of the model are programmed in a programming computer language. The computerised simulation model can show the interaction of numerous variables all at once, including hidden feedback and secondary effects that are so apparent to the user.	The use for these models is similar to the mathematical and empirical models. They are used mainly for sensitivity analysis and prediction of future developments in a particular area of interest using a computer programme. Like the mathematical models, simulation models are also heavily dependent on data availability.

Source: Kaewsuwan, 2002.

Although models are widely used in both government and the private sector, models however, have limitations which reduce their reliability. Table 4.5 below summarises some of the different limitations and reasons why the limitations exist.

Table 4.5: Limitation of models

Models' limitations	Description of the limitations
Improper assumptions	Although models have high integrity because they conform to rigorous mathematical standards, model building must begin with precise assumptions about the phenomena it represent. If the assumptions are wrong, incomplete or misleading, no matter how good the logical integrity of the model is, the model conclusions will be as much in an error as the initial assumptions.
Mathematical intractability	Mathematical models are limited in their use because they need to be tractable or say they are less useful unless they can be solved to produce meaningful results. In some cases, one can find a model that has a large number of equations. For the model to be useful these mathematical equations must be reduced to a solution and sometimes it is difficult to solve such a large number of equations, as they are sometimes expected to be converted to linear equations for them to be solvable. However, the real economic behaviour does not necessarily exhibit patterns that are linear or that can be represented well by mathematical equations.
Over-simplification or incompleteness of models	Given the fact that the real economy is too complex, when one develops a model, one would only include those variables which seem to have the most importance in explaining an economic phenomenon, leaving others that seem less important. Although this type of simplification is necessary, nonetheless, the simplified model is different from the real economy that it is designed to represent. The excluded variables often do matter in the real economy, as they carry some important information about the behaviour of other variables in the economic system. This missing information in the model may have significant implications on the model outputs and may render the model to be incomplete.
Unavailability of data	Mathematical, empirical and simulation models are hugely dependent on data as inputs into the model. Even if the model can be well developed, if data to be used in the model is not available or incomplete due to different reasons, assumptions about proxy data has to be made. The proxy data may not be a good representation of the actual data that was intended to be used in the model, and this may compromise the integrity of the model.
Usefulness limited to its original purpose	Models are developed for a specific purpose and as they reflect the performance and behaviour of a particular system. Correct use of a model requires that one understands the purpose of the model, as failure to do so may lead to improper application or misinterpretation of its results. Although a model can be adjusted to be used for a different purpose, the user of the model needs to know what the model was originally intended to do, what its new purpose is and what changes have been made.
Assume the future will be like the past	Models are built to represent a system based on historical data, yet they are used to forecast what will happen in future. If there are significant changes in the real-world system, the quality of the model suffers. This may render the model irrelevant and warrant model

Models' limitations	Description of the limitations
	update in order to reflect the latest developments in the system it represents.

Source: Van Slyke, O. E. and Fusco, n.d.:658

As discussed in the table above, one of the main limitations of models, especially the mathematical, empirical and simulation model, is unavailability of data. This means that it does not matter how these types of models have been developed, lack of data can make their usefulness irrelevant. Also notable is that all models are wrong, although some are more useful than others (Gross, 2003:4). This statement may suggest that there is not a single correct model, as different researchers may perceive a phenomenon differently and may develop different models for the same phenomenon.

Based on the above discussion on different types of models and their limitations it is clear that the most suitable model for this study is the conceptual model which falls within the visual class of models. To develop this type of model the researcher does not need a lot of data or a big sample size to analyse a phenomenon, as these models are not as data-hungry as the mathematical, empirical and simulation models.

4.12.2 Why a conceptual model is appropriate for this study

A conceptual model is a printed representation of a mental map formed inside a person's head on how certain activities are related with each other (USAID, 2007:1). It is a methodology used to establish a body of knowledge in a discipline often culminating in policy recommendations.

According to Manley *et al.*, (2000:140):

"... Conceptual models express ideas about components and processes deemed important in a system, document assumptions about how components and processes are related and identify gaps in our knowledge as they are working hypothesis about system form and function."

Following are some of the reason why a conceptual model is suitable or appropriate for this study:

Firstly, a conceptual model approach is suitable for this study, as it is able to do the following, as USAID (2006:1) and Morgan (2008:1) argue: (i) explicitly define what it is that we want to influence or change, (ii) characterise and prioritise the factors that directly or indirectly result in undesirable outcomes in the South African PPP market, (iii) graphically represent how these threats, individually or in combination, cause the undesirable outcome, (iv) demonstrate that the to be proposed intervention clearly focuses on reducing the undesirable outcome and achieving the intended goal, (v) provide a strategic framework of what to monitor in order to assess the effectiveness of the intervention, (vi) offer a structure for reviewing and revising assumptions and activities of a phenomenon, as conditions change over time, (vi) depict the *status quo* and make the implicit explicit, thus challenging the *status quo* and suggest improvements, and (vii) allow sensible debate to take place about relationships between variables taxonomy and other relationships within the model. They allow clarity to be brought to the debate, with problems addressed in a concise and understandable manner. All the mentioned capabilities of a conceptual model are exactly what the researcher seeks to achieve in this study. The conceptual model approach is capable to demonstrate how the participation of SMEs in PPP projects can be increased.

Secondly, it has been shown under Section 4.12.1 that there are basically four types of models used in social research, namely visual models, mathematical models, empirical models and simulation models. The manipulation of the last three models is hugely dependent on data availability as inputs into the model. This means that it may be impossible to develop and use these models if there is no adequate data to feed into them. Data on PPP projects in South Africa is limited; even the little available information is not complete and its integrity is also questionable. Furthermore, the total number of PPP projects in the country was small during the period when this study was conducted and any data collected from a sample drawn from such a small population of PPP projects would had not been adequate to be

used as inputs into the mathematical family of models. This may render the use of the three models impossible to explicitly determine any relationships between PPP projects, SMEs and job creation.

Thirdly, the use of mathematical, empirical or simulation models is not appropriate for this study, as the objective of this study is not to conduct sensitivity analysis of the relationships between PPP projects and SMEs, but to improve the physical structure of the existing traditional PPP model to encourage an increased participation of SMEs in PPPs, based on current practices on the participation of SMEs in PPP projects. The objective is not to forecast future developments of the PPP or SME market, as these models are mostly used for forecasting purposes in addition to sensitivity analysis. The suitable type of model to be used to understand how the participation of SMEs in PPP projects can be improved is the conceptual model, which falls within the visual family of models, as discussed in Table 4.4 above. Conceptual models are mainly applied in qualitative analysis; however, this does not mean they cannot be used for quantitative approaches. The mixed research method or approach is appropriate for this study, because it strikes a balance in the use of qualitative and quantitative information to have meaningful research results (Choy, 2014:102). Due to the fact that there were not many PPP projects in the country during the study period from which data for a quantitative approach could have been collected, the conceptual model became a natural alternative for this study compared to the mathematical models.

Chapter 5, therefore, present the study findings based on the survey information collected through the questionnaire. This information will assist the researcher in developing the conceptual PPP model for sustainable development of the SME sector.

4.13 Chapter summary

This chapter described the research methodology, including the population, sample, data collection instruments as well as strategies used to ensure ethical standards, reliability and validity of the study. It also identified the type of model to be used to

achieve the study objectives and it gave reasons as to why the identified model was more suitable for the study compared to the other models discussed in the chapter.

CHAPTER 5: RESEARCH RESULTS

5.1 Introduction

Chapter 4 focused mainly on the survey design and techniques followed when collecting data from the target population. It defined the population from which the data was collected, the methodology used to collect the data, the data collection or measuring instrument (the questionnaire), the sample criteria and data-collection procedure. The focus of this chapter (Chapter 5) is therefore on the presentation of the research/survey results. It presents the survey results collected during the data-gathering exercise. The presentation of the results in this chapter follows the structure of the measuring instrument used to collect the data. The measurement instrument had three sections namely; classification, current industry practices and the respondents' opinion regarding SMEs participation in PPP projects.

The objective of this chapter is therefore to present the research results obtained through the survey. The chapter is organised as follows: the first part of the chapter presents experience profiles of the survey participants, then current practice by PPPs on outsourcing of services, followed by research results on the current practice on the use of SMEs by PPP firms. It moves on to present the survey results on challenges in using SMEs in PPP projects, and lastly, it presents results on what respondents think needs to be done in order to improve the participation of SMEs in PPP projects.

5.2 Analysis of research results

As discussed in Section 4.9, the data-collection tool used to collect information for this study was a questionnaire. The questionnaire was divided into three sections, namely Section A, B and C, with Section A aimed at collecting data on the level of experience that the respondents had on PPP projects and also to identify those who had experience in both the public and the private sector side of a PPP project. This helped balance the nature of responses, as data was collected from respondents who have worked in both private and public sectors.

Section B was aimed at collecting information on *current industry practices*: This section of the questionnaire focused mainly on obtaining information on whether or not small enterprises (SMEs) currently play a role in PPP projects in South Africa. It also aimed at collecting information on the types of services SMEs provide to PPPs and challenges faced by SMEs working with PPP projects. This information was necessary, as it would help to answer the first main research sub-question: “*How have PPP projects in the country helped SME development?*” and the second research sub-question: “*What are the challenges faced by PPP firms when using SMEs to supply services to PPP projects?*”

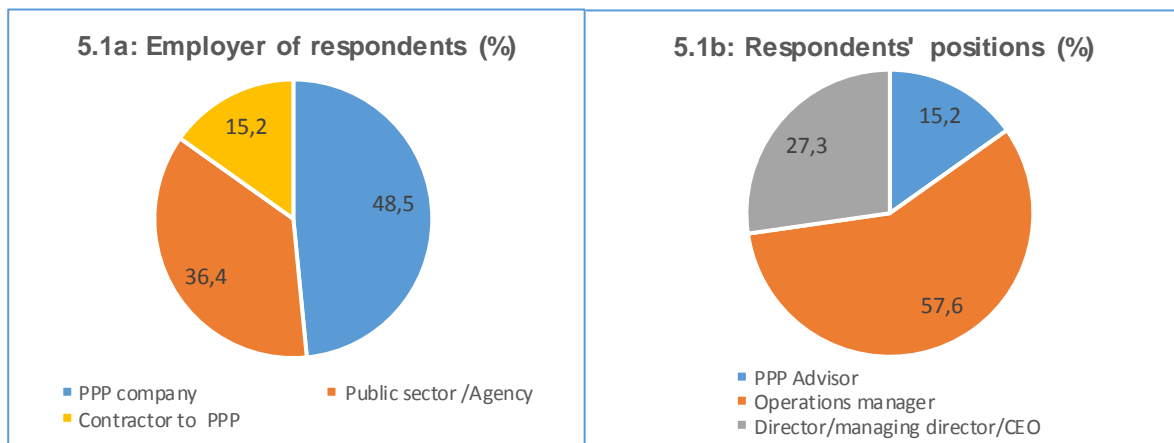
The last section of the questionnaire (Section C) was aimed at collecting information on respondents’ opinion regarding SME participation in PPP projects. The section focused mainly on obtaining data on the respondents’ opinions regarding SME participation in PPP projects. This information was important, as it also addressed the third main research sub-question: “*How can the involvement of SMEs be encouraged in PPP projects?*” The information collected through the supplementary questionnaire also forms part of this section.

Following is a discussion on the research results related to the information collected from the first questionnaire and the supplementary questionnaire as discussed.

5.2.1 Employment status of survey participants

Figure 5.1 below gives the employment status of the survey participants during the survey period. About 36,4% of the respondents were employed only by the public sector either in a government department or government agency responsible for PPP projects, and about 48,5% of them came from the private sector or PPP project operators, whereas 15,2% were employed as advisors to PPP projects, either for the private or public sector. The results showed that most of the respondents to the questionnaire were senior employees of the respective organisations. From Figure 5.1b it is clear that about 57% of the respondents were operations managers/senior managers or supervisors in a PPP project, while 15% of them were PPP advisors, either in the public sector or in a PPP project, and about 27% were at director or chief executive officer level.

Figure 5.1: Employment status of respondents

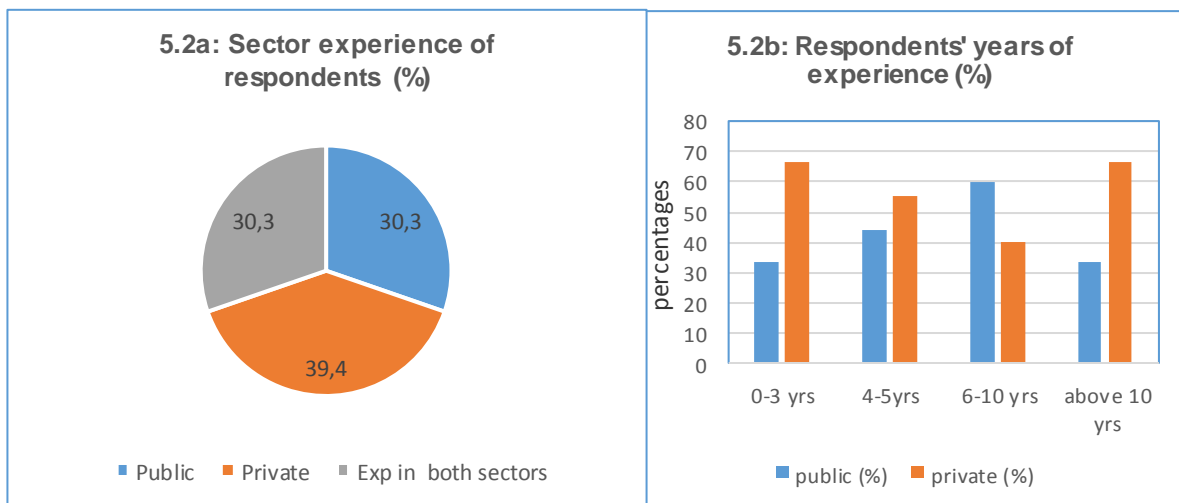


Source: Survey conducted by Author

5.2.2 Experience profile of respondents

Figure 5.2 shows respondents' years of experience in PPP projects. The majority of the participants had experience working on PPPs in the private sector as shown in Figure 5.2a, followed by those who had experience in both the public and the private sector. Figure 5.2b shows that about 67% of the respondents had more than ten years of experience working on PPP projects, mainly in the private sector, and about 33% had more than ten years of experience in the public sector. The experience profile of the respondents was also fairly distributed, as on average one-third of the respondents had experience either in the public or the private sector or in both the public and the private sectors (see Figure 5.2a). The experience profile of the respondents shows that the information on the current practice in involving SMEs in PPP projects was collected from a group of respondents who had good and balanced experience in PPP projects. It has been noted that the years of experience of the managing directors, directors or chief executive officers who participated in the survey was on average more than six years. Most of the respondents who held senior positions at the time when the data was collected had more than ten years of experience, and the majority of those that had experience only in one sector had less than five years of experience.

Figure 5.2: Respondents' years of experience in PPP



Source: Survey conducted by Author

5.2.3 Economic sector experience of respondents

Figure 5.3 shows different type of projects in which respondents were involved before and during the time of the survey. About 13 of the respondents were involved in office accomodation, followed by 10 in health projects and 7 in water and sanitation, with another 7 in roads/transport PPP projects. There were no respondents that were involved in housing PPP projects. Housing PPPs are not common in the South African PPP market. Even the National Treasury PPP Unit did not have a housing PPP project in its database during the survey period. Again, this shows how balanced the collected information was. It was collected from almost all sectors where PPP projects were implemented.

Figure 5.3: PPP projects for which respondents once worked on

Source: Survey conducted by Author

5.2.4 Roles played by respondents in the different PPP projects

Table 5.1 below shows the different roles played by respondents in the different PPP projects discussed above. For example, of the 18 respondents who once worked as project managers, 5 worked for hospitals and another 5 worked for office accommodation PPPs. Of the 18 respondents who worked as PPP specialists/professionals, 6 worked in road/transport PPP projects, while 4 worked for office accommodation PPPs. Office accommodation PPPs are popular in the South African PPP market. A number of government departments had moved towards employing PPPs to provide office accommodation.

Table 5.1: Role played by respondents in the different PPPs (numbers)

Type of PPP	Project manager	Advisor to government	Advisor to PPP project	PPP Specialists/ Professionals	Other	Total
Hospitals	5	2	4	2	1	14
Roads/transport/rail	3	1	0	6	0	10
Prison	0	2	1	2	0	5
Office accommodation	5	2	1	4	2	14

Type of PPP	Project manager	Advisor to government	Advisor to PPP project	PPP Specialists/ Professionals	Other	Total
Water and sanitation	2	0	1	3	2	8
Power and energy	1	0	1	0	1	3
Housing	0	0	0	0	0	0
Tourism	2	2	1	1	0	6
Total	18	9	9	18	6	

Source: Survey conducted by Author

From Table 5.1 we see that, of the 14 respondents who had worked for hospitals PPPs, 5 worked as project managers, while 4 worked as Advisors to PPP projects. Of those who worked in office accommodation PPPs, 5 worked as project managers and 4 as PPP specialists or professionals. The experience profile of the respondents is also well-balanced and that improves the confidence on the quality and reliability of the information collected for this study.

5.3 Presentation of research data on current industry practice

As mentioned in the previous section and in Section 4.9.1 of the Chapter 5, the aim of Section B of the questionnaire was to collect data on current industry practices, focusing mainly on obtaining information on whether or not small and medium enterprises (SMEs) currently play a role in PPP projects in South Africa. Below is a presentation of the research results on this issue.

5.3.1 Outsourcing of services

This section presents the survey results on current practices regarding outsourcing of services by PPP firms. The focus of this section is on whether PPP firms have a policy on outsourcing of services to SMEs and the type of services that PPP firms can outsource to SMEs. It also presents results on factors considered by PPP firms when awarding contracts to SMEs, and tools used by PPP firms to make SMEs aware of opportunities in their companies.

5.3.1.1 Company policy on the use of SMEs and outsourcing of services

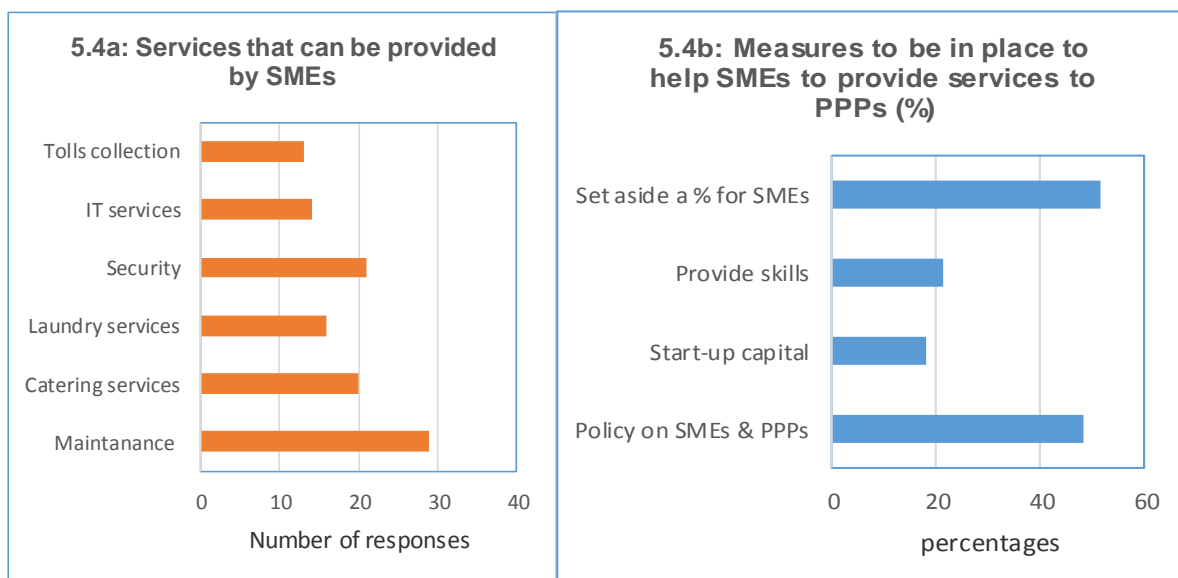
When respondents were asked whether their firms had a policy on outsourcing services to third parties and whether there is a policy within the respective PPP firms on the use of SMEs, about 82% of the PPP companies who answered the questionnaire, indicated that they outsource their services to either SMEs or big firms, while 79% of them indicated that they have a policy on the use of SMEs in their PPP projects, and 21% said there was no policy on the use of SMEs in their organisations. It is worth noting that many respondents confused an SME policy with the Preferential Procurement Regulations of 2001, which promote the participation of Historically Disadvantaged Individuals (HDIs) in the South African economy. It was established during the second survey that most of the respondents were referring to the requirement by the Preferential Procurement Regulations of 2001, which requires state-owned entities to take into account the BBBEE factors when procuring goods and services. Since this policy requires bidders to indicate compliance with BBBEE, most respondents thought this was because they had to comply with their SME policy. Therefore the results based on these responses may not be accurate. The information may reflect that PPP firms do outsource some of their services to SME firms, but not that they have a policy for using SMEs. It may be some of them have a policy, but some may not have a policy.

5.3.1.2 Services that PPPs can outsource to SMEs

Based on respondents' experience in PPP projects and current practice within a PPP project, Figure 5.4 shows respondents' views or experience on the usefulness of SMEs in providing services to PPP projects. When respondents were asked whether SMEs can play a role in PPP projects during their operational phases, all respondents indicated that SMEs can play a big role in providing services to PPP projects. Figure 5.4a shows that the majority (29) of respondents think SMEs can provide services such as maintenance of PPP assets, followed by security (21) and then catering (20) services. It is not surprising that maintenance had a high score, given the fact that all assets need to be maintained at one point or another and all assets also need security.

The survey results also indicated that there is a need for a government policy that will force PPP project firms to use SMEs in both implementation and operation of the projects. Figure 5.4b shows that about 49% of the respondents think there should be a PPP-SME policy in place that will force PPPs to use SMEs during the operation of PPP projects. About 52% of the respondents think that the policy should force PPPs to set aside a minimum percentage of the services they need to be provided by SMEs. Provision of both management and operational skills, as well as provision of start-up capital, were also identified as important imperatives to ensure that SMEs effectively participate in PPP projects. This finding is not surprising, because even during the literature review exercise, these requirements were identified as hindrances in developing a viable SME sector, not only in South Africa, but in other countries as well.

Figure 5.4: Services that PPPs can outsource to SMEs



Source: Survey conducted by Author

5.3.2 Current practice in the use of SMEs by PPP firms

This section focuses on the current practice by PPP firms in using SMEs in PPP projects. It highlights the type of services outsourced by PPP firms, followed by a discussion on the type of enterprises that provide services to PPP projects and then

a discussion on the priority given to the use of SMEs and targets for contracts to be awarded to SMEs firms.

5.3.2.1 Services outsourced by PPP firms during the operational phase

Table 5.2 shows different type of services that are currently outsourced by PPP firms during the operational phase of PPP projects. Most of the PPP project firms covered in the survey outsourced certain services to SMEs. The only PPP that does not outsource its services to SMEs is the nature conservation PPP.

PPPs that outsource five out of the six identified possible services at the operational stage of the projects are office accommodation and hospital PPPs. It can be argued that these PPPs have a high potential for providing SMEs with opportunities as well as having a high potential for job creation, followed by roads and prisons PPPs. Although roads PPPs only outsource four of the six services identified, it is likely that it has the highest potential for job creation compared to other PPPs, given the fact that road operation is more labour-intensive than any of the PPPs listed in Table 5.2 below. It is highly possible that one needs more labourers per thousand rand spent on road maintenance compared to hospital or office accommodation.

Other services that can be provided by SMEs to road PPPs include services such as traffic management services, tow-truck services for vehicles involved in accidents, traffic control, and many more. Road maintenance also involved a number of different activities that require different skills. Nature conservation PPPs seem to have low potential, as currently there is no service that is provided by SMEs to these types of PPPs. The information obtained from this type of a PPP project may not be generalised, as there was only one nature PPP that responded to the questionnaire. It needs to be noted that there are only a few nature PPPs in the country. However, nature conservation PPPs can employ SMEs to provide security services and asset maintenance to their facilities.

Table 5.2: Services outsourced during the operational phase of PPP projects

Types of services that can be provided by SMEs to PPPs	Road	Nature conservation	Water and sanitation	Prison	Hospital	Office accommodation
Maintenance	X	-	X	X	X	X
Catering	-	-	X	X	X	X
Laundry	-	-	-	X	X	X
Security	X	-	X	X	X	X
IT	X	-	X	-	X	X
Tolls/tariffs collection	X	-	X	-	-	-

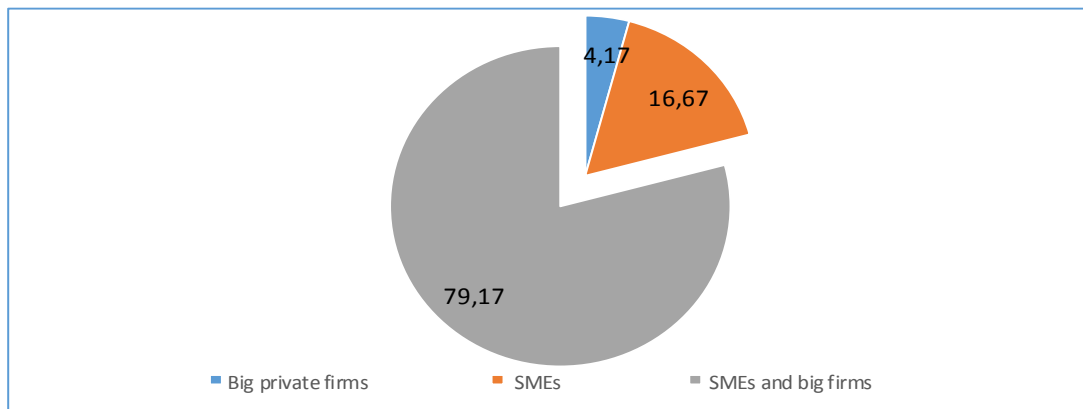
Source: Survey conducted by Author

- X = means the service is provided by SMEs
- = means there is no service provided SMEs

5.3.2.2 Enterprises providing services to PPPs during the operational phase

Figure 5.5 shows different types of enterprises that provide services to PPP projects during their operational phase. Most of the services (79,2%) are provided by SMEs and big firms. About 17% of the respondents indicated that SMEs provide services to the PPP projects they worked for, while only 4% indicated that their services are provided only by big private firms, and there were no services provided by foreign companies.

Figure 5.5: Types of enterprises providing services to PPPs (%)



Source: Survey conducted by Author

Although the majority of PPP project firms outsource their services to both big and small firms (79,2%), there is a high possibility that the bigger share of these services is provided by big firms and that the share allocated to SMEs is small. Figure 5.8 shows in detail how much PPP services are provided by SMEs and big firms.

5.3.2.3 Factors considered by PPP firms when awarding contracts to SMEs

Figure 5.6 shows the different factors considered by PPP firms when awarding contracts to SMEs. About 46% of PPP firms appoint SMEs as service providers based on fitness for purpose, meaning there are no lighter requirements for SMEs compared to big firms when awarding a contract. SMEs have to compete with large firms for tenders under the same requirements or conditions.

About 37% of the respondents indicated that their companies allocate contracts to SMEs because some of the tenders that PPP firms secure from the public sector have conditions that require them to subcontract SMEs. As discussed earlier, this requirement is not for SMEs, but for HDI compliance. Given the fact that most firms owned by HDIs are SMEs, many respondents see this requirement as a SME requirement. This means that preferential treatment is given to an HDI-owned firm during the bids evaluation process, which in most cases happens to be an SME.

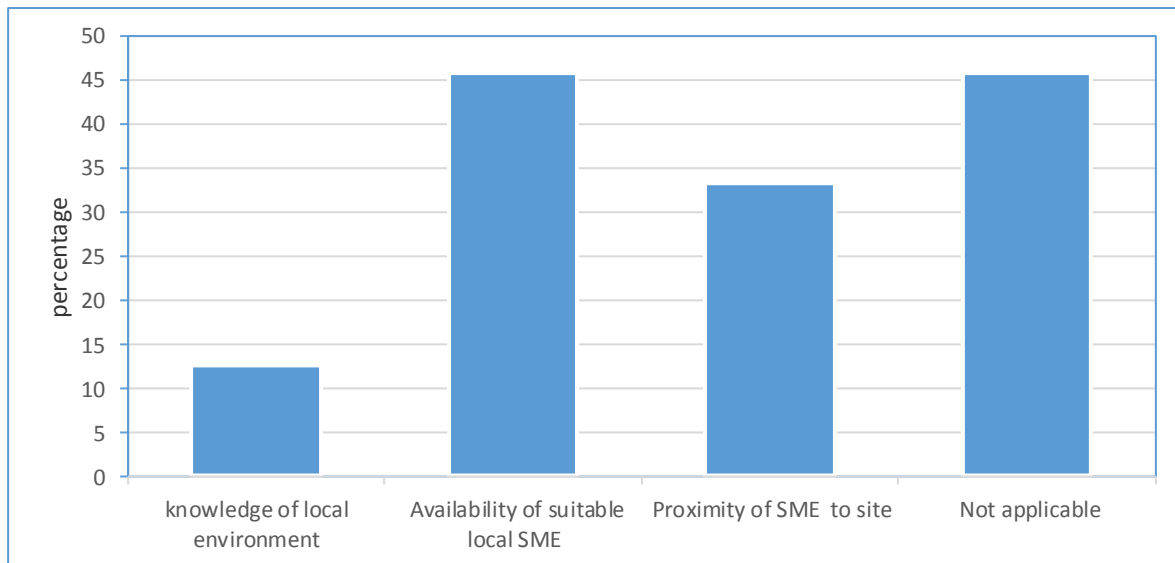
About 12% of respondents indicated that their companies use a preferred supplier database to identify suitable SMEs for the service they need. It is possible that these companies get some preferential treatment to a certain extent as discussed above, especially in order for the procurement of the service to meet the Preferential Procurement Regulations requirements. According to the Preferential Procurement Regulation, not more than 10% of the total bids evaluation points should be given to companies that are HDI-compliant either by being owned by HDIs or sub-contract companies that are owned by HDIs, which in most cases happen to be SMEs. Less than 5% of the respondents indicated that their PPP companies use SMEs only if they need special skills. Given that SMEs in most cases lack appropriate skills, this approach may disadvantage the majority of SMEs, as preferences in most cases may end up been given to a few SMEs that happen to have the required skills.

Figure 5.6: Priority given to the use of SMEs in PPP projects (%)

Source: Survey conducted by Author

When the PPP firms' respondents were asked if their approaches to using SMEs vary depending on the geographical location of the project, the majority (54%) of them indicated that this category did not apply to them, while 46% said their approaches vary, based on the geographical location of the project. Figure 5.7 gives the different factors considered by those who vary their approaches to using SMEs if the project is in a different geographic area. 46% of the respondents said they appoint SMEs based on availability of a suitable SME in the area, while 33% consider proximity of the SME to the PPP project site and 12% consider the SME's knowledge of the local environment as an important factor. It is worth noting that about 46% of the respondents do not consider any factor for awarding tenders to SMEs, as they indicated that the factors listed were not applicable to them.

Figure 5.7: Factors considered for awarding SMEs tenders in different geographical locations (%)



Source: Survey conducted by Author

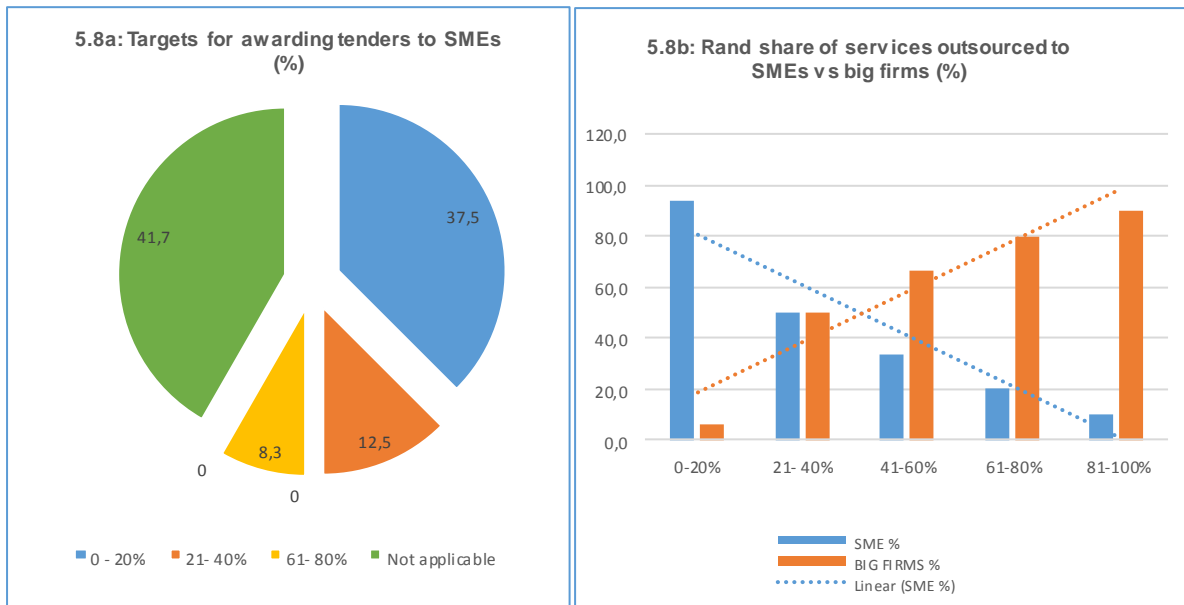
5.3.2.4 Target for contracts to be awarded to SMEs

Figure 5.8a shows that most PPP firms have targets for awarding contracts to SMEs. However, it has been found during the survey that the target that respondents referred to, was not meant for SMEs, but for HDI owned companies, which happen to be SMEs, as discussed earlier. The target that the respondents referred to was the 10% which is one of the requirements of the Preferential Procurement Regulations of 2001. The PFMA requires that all bids awarded by a public entity should be awarded to companies that comply with the Preferential Procurement Regulations requirements. The Preferential Procurement Regulations of 2001 requires that not more than 10 percentage points be awarded to companies that are owned by HDIs or subcontract HDI-owned companies. Therefore indirectly there is a target for SMEs.

Figure 5.8a shows that the majority (38%) of PPP companies set aside a low number of contracts to be awarded to SMEs. This means only a small share of the number of tenders that get allocated to HDI firms is therefore indirectly awarded to SMEs. The majority of PPP firms set a target of between 0 and 20% for SMEs, and the target becomes smaller as one moves towards higher percentage shares. About 42% of

the respondents indicated that targets for contracts to be awarded to SMEs do not apply or are not applicable to their PPP firms. Figure 5.8b shows that the share in rand amount of contracts that are awarded to SMEs is high at the lower percentage band and becomes lower (in percentages) as one moves towards the higher percentage bands.

Figure 5.8: Targets for awarding tenders to SMEs

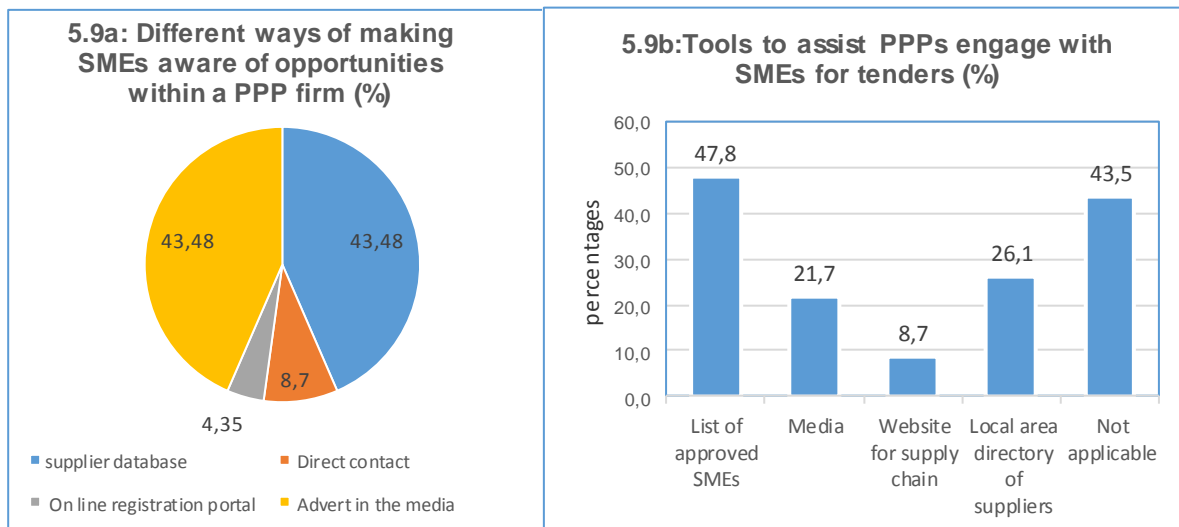


Source: Survey conducted by Author

5.3.2.5 Tools used by PPP firms to engage with SMEs

Figure 5.9a shows that most PPP firms make SMEs aware of business opportunities through supplier databases or through adverts in the media. The most commonly used tools, as shown in Figure 5.9b, in making SMEs aware of business opportunities within a PPP firm are the list of approved SMEs or supplier database and local area directory of suppliers. It is possible that these tools are not only used to engage with SMEs but also to engage with big firms which may also supply PPP firms with different services. About 44% of the respondents indicated that they do not use any tool to create awareness about SMEs opportunities in their respective PPP firms.

Figure 5.9: Ways and tools used by PPP firms to engage with SME



Source: Survey conducted by Author

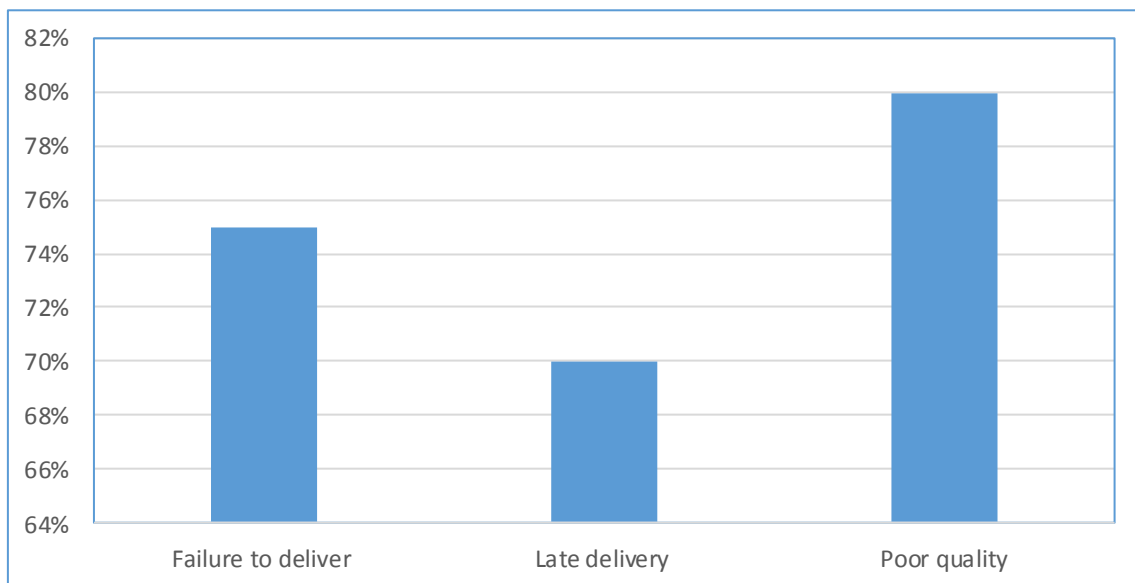
5.3.3 Challenges in using SMEs in PPP projects

Section B of the questionnaire also focused on collecting information on the different challenges that PPP firms face when dealing with SMEs in a PPP projects. It also analysed data collected on the causes of the challenges and the different ways in which the challenges could be overcome.

5.3.3.1 Challenges faced by PPP firms when using SMEs

Figure 5.10 shows the different challenges that PPP firms face when dealing with SMEs. When respondents were asked whether their firms face challenges with SMEs providing them with services, about 87% of respondents indicated that their PPP firms do face challenges when working with SMEs. The most worrying challenge they face is poor service quality delivered by SMEs, followed by failure by SMEs to deliver the service on time (see Figure 5.10). This finding is also confirmed by literature on SMEs, in that SMEs struggle to deliver services of high standard on time due to lack of human capacity.

Figure 5.10: Type of challenges faced by PPPs when using SMEs (%)



Source: Survey conducted by Author

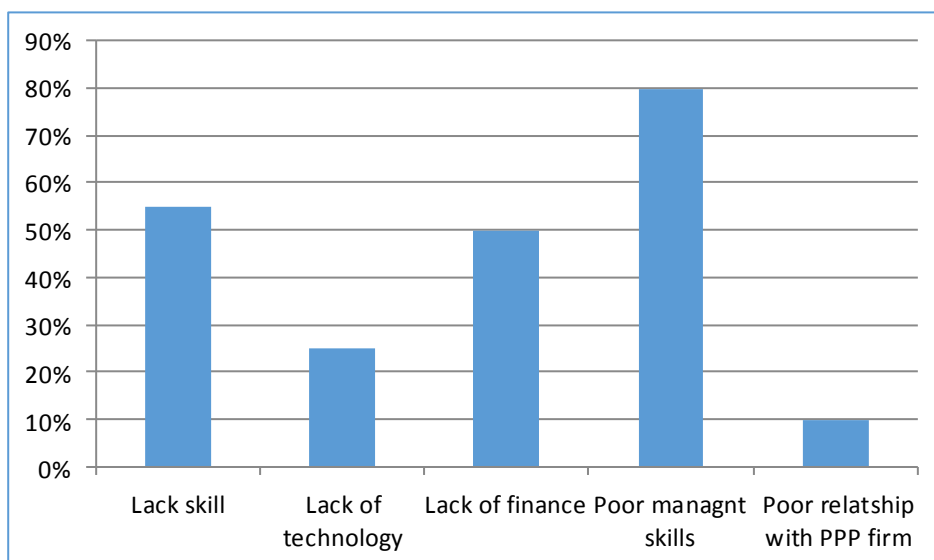
In addition to the above challenges, Aigbavboa and Thwala (2014:776) investigated challenges and problems facing SMEs involved in the construction in Mbombela (Nelspruit) and found that lack of managerial, planning, technical know-how, financial skills and job opportunities are the main challenges facing SMEs in the construction industry. Brink, Cant and Ligthelm, (2003: 18) also investigated problems experienced by small businesses, focusing on SMEs operating in townships and CBD areas in Gauteng in 2003, and found that inflation, interest rates, competition, technology change and credit management were of particular concern for the success of SMEs. All these challenges need to be taken into account when developing the conceptual model for SMEs in PPP projects.

5.3.3.2 Causes of challenges and their possible solutions

The main reason why SMEs encounter the problems mentioned above is lack of appropriate management skills. Figure 5.11 shows that about 80% of the respondents indicated that poor management of SME firms is the main cause of the problems that PPP firms face when certain services are supplied by SMEs. The second main cause is lack of appropriate human resources, followed by lack of

access to finance. Lack of appropriate technology and poor relationship between SMEs and PPP firms respectively were not identified as major problems. The majority of respondents think finding ways to improve managerial skills of SMEs should be a priority, followed by providing SMEs with training to improve the quality of skills for their employees. Another important factor is improving access to finance. Although access to technology is also seen as a hindrance, the respondents did not consider acquiring relevant technology as a high priority area that needs immediate attention by SMEs.

Figure 5.11: Causes of challenges (%)



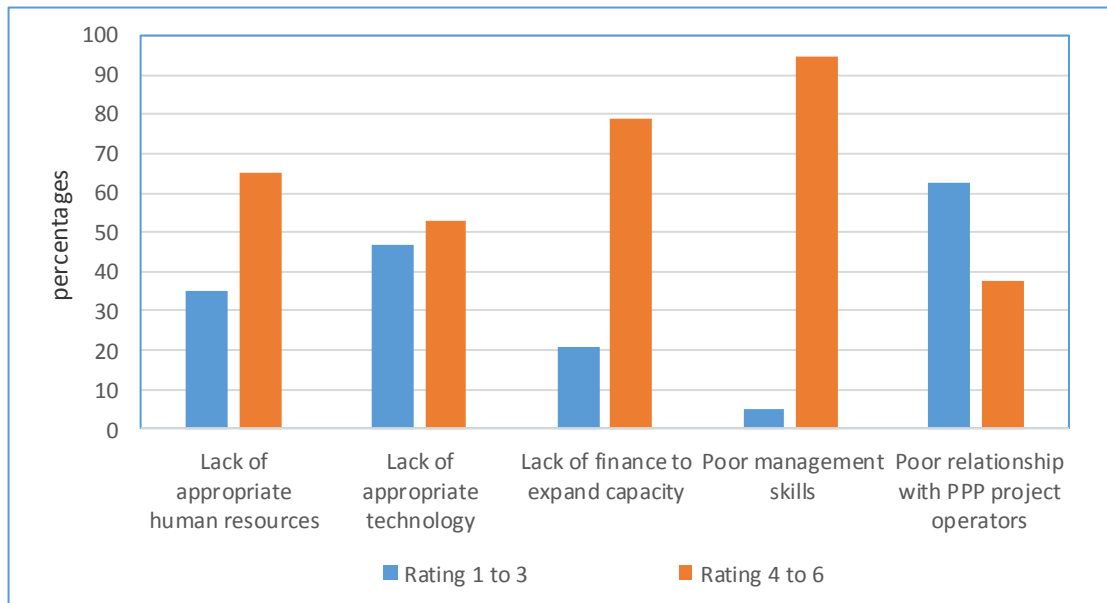
Source: Survey conducted by Author

Respondents were also asked to rate (from 1 to 6) the impact of the causes of the challenges faced by PPP firms using SMEs to provide services. The results of the ratings are presented in Figure 5.12, where a rating of 1 means a less significant impact and a rating of 6 means a significant impact. Poor management skills for SMEs have a significant impact on the performance of SMEs providing services to PPP projects. About 95% of the respondents who answered this question gave this factor a rating of 4 to 6, and only 5% of the respondents gave it a rating of 1 to 3.

The next significant factor is lack of finance, followed by lack of appropriate human resources. Poor relationship with PPP project operators had no significant impact on

the performance of SMEs. The rating of the challenges is consistent with the results presented in Figure 5.11 above.

Figure 5.12: Rating of factors affecting SMEs’ performance (%)¹¹



Source: Survey conducted by Author

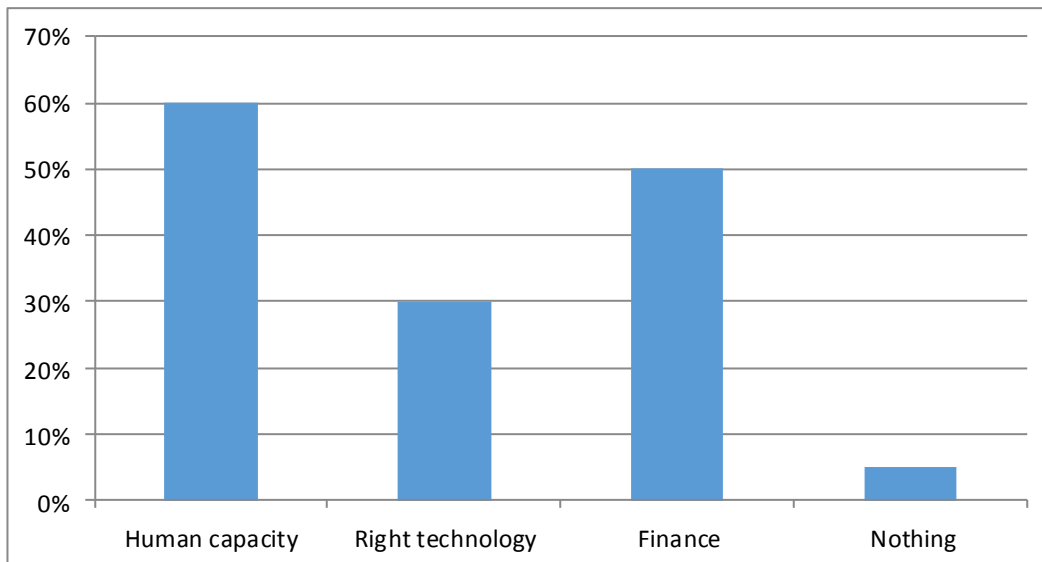
5.3.3.3 Interventions by PPP firms to help SMEs cope with challenges

PPP firms were also asked which types of intervention/s they had provided to SMEs in order for SMEs to overcome the identified challenges. When asked how their companies had helped SMEs that provide services to their firms, the majority of the respondents indicated that they provided SMEs with human capacity building (60%) and finance or helped them get easy access to finance (50%) (see Figure 5.13). The majority of PPP firms have assisted SMEs with human capacity-building to help SMEs cope with the challenges identified above. About 5% of the respondents said their PPP firms had done nothing to help SMEs cope with the identified challenges. Although lack of appropriate technology was not seen as the main problem facing SMEs, acquiring the right technology for the services to be provided to PPP firms can go a long way in helping SMEs improve the quality of the services they provide to PPP firms. As it can be seen from Figure 5.13, the amount of assistance provided by PPP firms to SMEs is in response to the challenges that PPP firms face when

¹¹ A rating of 1–3 means less significant to medium impact, while a rating of 4-6 means significant impact

dealing with SMEs. Most of the efforts from PPP firms went towards helping SMEs improve human capacity, followed by improving access to finance.

Figure 5.13: Assistance provided by PPP firms to SMEs (%)



Source: Survey conducted by Author

5.3.3.4 Employment and growth by SMEs providing services to PPP projects

Figure 5.14 shows the number of employees employed by SMEs that provide services to PPP projects. The result show that, on average, the majority of SMEs that are contracted by PPP project companies employ between 0 and 20 employees (30,8%), followed by those who employ 21 to 40 and those employing more than 100 employees (23,1%). This trend follows the one for the rand share of services outsourced to SMEs versus big firms shown in Figure 5.8.

Figure 5.14: Number of employees employed by SMEs in PPP projects

Source: Survey conducted by Author

Table 5.3 gives the number of people that the different SMEs employed in the beginning of their respective contracts with PPP firms and the current number of people who were still employed by the different SMEs during the research period. These employment figures do not include SMEs that provide services to PPP firms for a specific project, say not more than six months. Most of the SMEs that provided information on employment had a contract for at least three years and the figures presented here are for permanent employees.

Eight PPP projects were covered by the employment figures, although other respondents refused to answer questions on employment. This translates to 57% of the PPP projects that comprised the study sample. SME1 to SME6 provide services to office blocks PPPs, SME7 provide service to prison PPP, SME8 to SME12 provide services to road PPPs and SME13 provide services to a hospital PPP. There were no responses received from SMEs providing services to water and conservation PPP projects.

It is clear from Table 5.3 that the number of people employed by the different SMEs increased during the contracts period. It is also observed that SMEs that have been

operative or provided services to PPP projects for a longer period have increased their number of employees by a bigger margin over the years.

Table 5.3: Employment by SMEs in PPP projects

Starting period	SME 1	SME 2	SME 3	SME 4 ¹²	SME 5	SME 6 ¹³	SME 7	SME 8	SME 9	SME 10	SME 11	SME 12	SME 13
Starting employment ¹⁴	9	20	24	0	4	343	33	100	10	4	16	6	18
Current employment-2015	15	36	36	2	4	350	65	200	36	100	107	60	24
Percentage increase (%)	67	80	50	100	0	2	97	100	260	2400	569	900	33

Source: Survey conducted by the Author

SME 1=facility management, SME 2= cleaning, SME 3=catering, SME 4=CCTV, SME 5= Garden services, SME 6= combined services for office block, SME 7=asset maintenance in general, SME 8= road maintenance, rehabilitation and accidents response, SME 9=security, SME 10=road maintenance, SME11=rehabilitation and accidents response, SME 12= toll collection, SME13=security

5.3.3.5 Practice and challenges in fostering the use of SMEs by PPP firms

When respondents were asked whether their PPP firms outsource some of the services they need, 82% said yes and 15% said their PPP firms do not outsource (see Figure 5.15a). It is worth noting that these PPP firms that outsource services do not only outsource their services to SMEs alone, but to both SMEs and big firms. Therefore the 82% represent services provided by both SMEs and big firms. Some of these PPP firms only outsource to big firms. When those respondents whose responses were no, were asked to give reasons why their PPP firms do not outsource to SMEs, the responses were that the extent of risk that can be transferred to SMEs can be over-whelming for many SMEs, while others said they had not ventured to this idea because the National Treasury PPP Unit first needed to be well-resourced and stabilised before PPP firms could consider using SMEs intensively. Others argued that the quality of work provided by some SMEs is not of a high standard, thus PPP firms are reluctant to employ SMEs, as most SMEs lack experience and capacity (see Figure 5.15b). It was also argued by the respondents

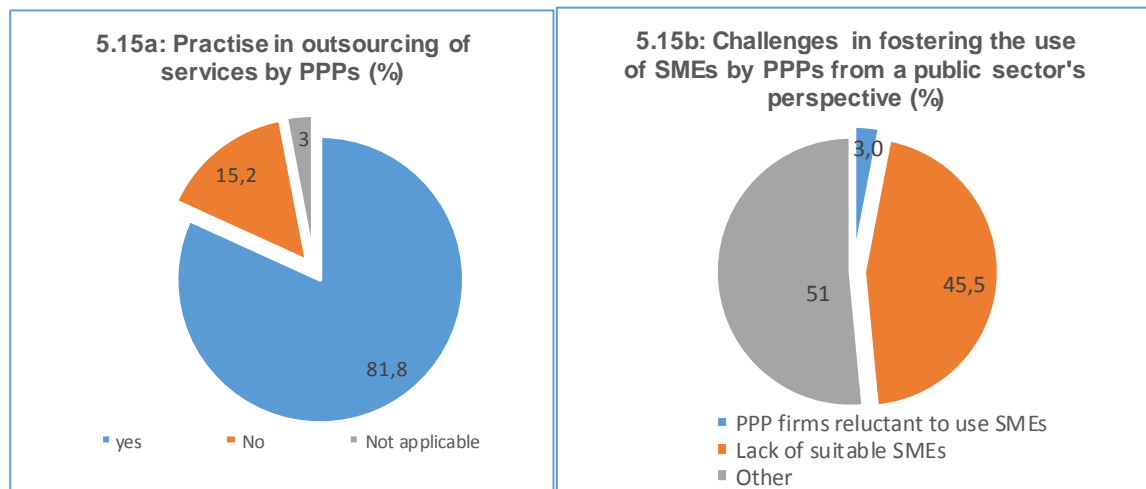
¹² There were no staff members employed in the beginning of the project.

¹³ The figure under this SME represents a number of SMEs providing services to the PPP project. The researcher could not get disaggregated figure.

¹⁴ The starting operation date for SME1 to 5 and SME13 was 2010. For SME 6 was 2003, for SME 7 was 2002, for SME 8 was 1997, and for SMEs 10,11,12 was 1997.

that PPPs are too expensive for SMEs and the finances needed by SMEs to participate in PPP projects can be difficult to access for most SMEs. In the tourism sector, because of the remoteness of nature reserves, finding a suitable SME is a challenge therefore in many cases PPPs struggle to find a suitable SME firm.

Figure 5.15: Practices and challenges in fostering the use of SMEs in PPPs



Source: Survey conducted by the Author

From the public sector perspective, the main challenge in improving the participation of SMEs in PPP projects was found to be the lack of suitable SMEs to provide the required services due to the challenges mentioned earlier that SMEs lack skills and access to finance; as a result they may have difficulties in meeting the expectations of PPP firms in terms of service quality and delivery. Given the respondents' experience with PPP projects and the involvement of SMEs as HDI-owned companies in PPPs, the public sector respondents argue that most of the SME companies are technically and financially weak. As a result some of them opt for financial compensation and to be bought out of the projects by big firms. Another argument made by the public sector respondents was that it is difficult for a big project to involve SMEs because that would mean to have a number of them coming together in order to have the capacity to deliver the service, which brings about new challenges. Other respondents mentioned reluctance of PPP firms to use SMEs as a challenge for increasing the participation of SMEs in the PPP market. This may be because of the poor quality service that PPP firms receive from SMEs such as late delivery and substandard services.

5.4 Improving participation of SMEs in PPP projects

This section focuses mainly on the structured questions of the questionnaire which include the complementary questions asked during the second survey. The main objective of these questions was to obtain respondents' views on what, in their opinion, needs to be done in order to promote the participation of SMEs in PPP projects.

5.4.1 SMEs as a requirement for public-private partnerships projects

The public sector respondents were asked what the main reason was why the department or government agency decided to use PPPs as a way of procuring infrastructure instead of following the traditional approach to infrastructure procurement. All the respondents indicated that the main reasons to follow the PPP approach was to obtain the much needed skills such as design and construction of big infrastructure projects which the public sector did not have at the time. Other reasons include securing private funding through private-party lending and equity contribution, as the public sector did not have the required finances to build the needed infrastructure. Transfer of risk to the private sector, which is better able to manage it, was also an important reason to go the PPP route and to take advantage of the private sector efficiencies in delivering infrastructure projects. It also emerged from the survey that the PPP approach was followed to ensure that overall value for money was achieved in all projects.

When the public sector respondents were asked whether SME participation was a requirement for the PPP bids, the researcher received different responses. Some respondents said yes while others said no. After some further probing, it emerged that those who said yes, were referring to the requirement for historically disadvantaged individuals (HDIs) as stipulated in the Preferential Procurement Regulations of 2001 pertaining to the preferential procurement policy framework Act: No. 5 of 2000 by the National Treasury. Section 4 of these Regulations requires that a minimum of 10 points may be awarded to a bid for a tender with a procurement value above R500 000 for being a historically disadvantaged individual (HDI) and/or

subcontracting with an HDI and/or achieving any of the specified goals stipulated in regulation 7. Regulation 7 states that an organ of state must, stipulate the preference point system which will be applied in the adjudication of tenders in the tender document.

Given the fact that most HDI-owned companies are SMEs, in that way SMEs were indirectly a requirement for PPP projects. However, it needs to be noted that HDIs' requirement only includes SMEs owned by previously disadvantaged South Africans. It is worth noting that this requirement is not compulsory; it merely increases bidders' chances of winning a tender. This means that a bidder can still not fulfil this requirement and capitalise on the remaining 90% points and get the tender awarded to it. In the early PPP projects before the Preferential Procurement Regulations of 2001 came into being, the Request for Proposals (RFP) for PPP projects required that bidders indicate how they would support socio-economic development initiatives of government during both the construction and operational phases of the projects. As a result bidders would mention the use of SMEs as one way in which they would promote socio-economic development initiatives of government.

An important observation that respondents also made was that before the Preferential Procurement Regulations of 2001 came into being, the commitment made by bidders in terms of supporting SMEs during the construction and operational phases of the PPP projects were higher than what the Preferential Procurement Regulations of 2001 requires and many service providers achieved higher percentage of SMEs participation in terms of Rand amount used for promoting SMEs than the minimum required by the current regulation of not more than 10 percentage points.

It is clear from the results of the survey that SME participation is not a direct requirement for PPP projects, as bid requirements for PPP projects tend to focus more on the technical requirements of the projects and the ability of the service provider to deliver a project at the right time and the right cost with a small requirement for compliance with the transformation laws of the country. The question

is: Can this requirement transform the SME industry in PPP projects in the country? The answer to this question is discussed in the next chapter of this study.

5.4.2 Expectation for PPP firms to meet certain SME requirement

When respondents were asked whether RFPs for PPP projects stipulated any requirement to be met on the participation of SMEs and what these requirements were, the responses were that the only requirements were those stipulated in the transformation legislation, which requires that a certain percentage (at most 10 percentage points) must be awarded to a company owned or contracting a company owned by HDIs. During the first PPPs where bidders were asked to propose as to how they would develop socio-economic initiatives, the proposals were used as a basis or target for performance monitoring purposes against which their performance was measured. Some of these requirements included significant development of companies owned by HDIs, through significant business support, and that the HDI-owned companies should be empowered in order to be able to stand on their own during the operational stage or after the project has been completed.

When respondents were asked whether successful bidders met the targets as they proposed them to the public sector agency responsible for the PPP projects, the responses were yes, as the targets used to measure their performance were only based on the proposal made. However, as discussed above, the targets they set for themselves were much higher than the target set by the Preferential Procurement Regulations of 2001. With regards to monitoring their commitments the companies had to submit quarterly/bi-annual empowerment reports to the public sector entity owning the project. The promises made in the proposal/bid became a commitment against which the performance of the service provider had to be measured. In cases where PPP firms failed to meet their commitments, agreements were reached between the PPP firm and the public sector agent to invest in an off-set project. The off-set project could be in another sector or in the same sector, if it proved difficult to meet the requirements within the PPP project.

5.4.3 Improving the participation of SMEs in PPP projects

Respondents were asked how they thought the participation of SMEs in PPP projects could be improved and also asked about who they thought should play a significant role in improving the participation of SMEs in PPP projects. With regards to improving the participation of SMEs in PPP projects, most respondents (mainly SMEs and public-sector respondents) thought the state should lead in this area by creating an environment conducive for both the SMEs and the PPP firms. The state should enforce the participation of SMEs by making it a mandatory requirement through legislation or through the concessionaire contract that any PPP project should have a significant SMEs content in it. This can be done in addition to the transformation requirement of the Preferential Procurement Regulations of 2001. The state should provide training to SMEs in areas where SMEs struggle, such as providing managerial skills and financial management skills. With regards to who should play a significant role in promoting the participation of SMEs in PPP projects, respondents opined that both the state and the PPP firms should play a significant role; however, the responsibility should start with the state; the state should start by ensuring that SMEs are able to access opportunities in PPP projects. This can be done through legislation.

The concessionaire should drive the participation of SMEs, while the state monitors progress and addresses any obstacles. Respondents also mentioned that using PPPs to build a sustainable SME sector is a good idea and has a lot of potential to succeed. This is because PPP projects bring together the private and the public sector to achieve the same goal. In many cases initiatives fail because it is difficult for participating parties to bring the private sector and the public sector together, but PPPs are capable of doing that. This means, by having a PPP project, the difficulty of bringing the private sector and the public sector together has already been overcome. Respondents also argued that the state and the private sector can easily start working out socio-economic strategies or initiatives that would benefit both parties in the long term. The two parties can agree on who should do what in order to improve the participation of SMEs in PPP projects.

It also emerged from the survey that the state needs to have clear policy direction and make consistent decisions or policy statements to improve regulatory certainty which is the biggest worry for private firms working in PPP projects. Policy decisions need to be taken promptly by the state, especially on issues that affect private-sector investment decisions. This can improve certainty in the economy and boost investor confidence. Once the private sector has certainty and confidence about the future direction of government policy, it would be possible to see an increase in private sector investment in the country. It can also make it easy for the private sector to work together with government to address other long-term socio-economic issues.

Table 5.4 summarises the survey responses on how the participation of SMEs in PPP projects could be improved and who respondents thought should play a significant role.

Table 5.4: Improving participation of SMEs in PPP projects

Respondents' opinions on how the participation of SMEs in PPP projects can be improved (things to be done by government)	Respondents' views on who should play a significant role in improving the participation of SMEs in PPP projects between government and the PPP company and why (things to be done by PPP firms)
Government should put mechanisms in place to give incentives to PPP companies who actively involve SMEs	The role of empowerment should be the task of both parties, as this can ensure a certain degree of credibility that will ensure SMEs are trained to successfully integrate and benefit from the PPP project
SMEs need to acquire management skills in general and financial management skills in particular to ensure that problems are addressed as early as they emerge, such skills can be provided by the state	PPP company (concessionaire) must take responsibility for assisting SMEs to deliver services required by the concessionaire by helping SMEs with skill development and access to technology and finance.
Government should put mechanisms in place to give preferential treatment to PPP companies who actively involve SMEs	The concessionaire should drive process of SME participation in PPP projects and government monitor progress
Base all activities on business ethics, sound business principles and best practices. Business management, skills development and training in business intelligence should be a prerequisite for the increased	PPP operator needs to have good oversight skills to identify problems at an early stage so that the SME can be assisted not to get into troubles,

Respondents' opinions on how the participation of SMEs in PPP projects can be improved (things to be done by government)	Respondents' views on who should play a significant role in improving the participation of SMEs in PPP projects between government and the PPP company and why (things to be done by PPP firms)
participation of SMEs in PPP projects	particularly financially due to non-performance
A database of SMEs, ranked based on performance during the past five years, may assist concessionaires to select appropriate SME partners. PPP contracts should require the concessionaires to have a programme of skills transfer allowing SME participation to increase during the period of the contract	All participants should play a role, especially the PPP company. The PPP company needs to make sure that it gets appropriate services or product from SMEs that can assist them in delivering the service as specified within the PPP agreement.
The government's role should be to create the right environment for the SME's to acquire the correct skills. The SMEs also need to put effort on their side to acquire those skills	
Government should ensure that SMEs take part in the forming of concessionaire rather than being add-on towards the end to satisfy government requirements	
More clear objectives to be set on what and how much of the work to be outsourced to SME's and government to monitor compliance with these targets	
Skills transfer, as well as policy development to integrate SME's to the current PPP market system is a necessity	
Government should incentivise PPP companies, may be through tax breaks for using SMEs to provide some of their services	
Government to assist with access to finance for SMEs to procure goods that can be delivered to the PPPs	
PPP company should lead, but government should provide stringent policy and legislation to enforce compliance	
Provide realistic requirements in PPP contracts and avoid over expectations, knowing what SMEs can and cannot do will be helpful	
Government intervention should be embedded in the concessionaire contract and should not be construed	

Respondents' opinions on how the participation of SMEs in PPP projects can be improved (things to be done by government)	Respondents' views on who should play a significant role in improving the participation of SMEs in PPP projects between government and the PPP company and why (things to be done by PPP firms)
as interference	
Government should train SMEs about opportunities in PPP projects by publishing a list of PPP projects and associated opportunities for SMEs on its website	

Source: Survey conducted by Author

The responses given by respondents in the above table show that most of the things that need to be done in order to increase the participation of SMEs in PPP projects need to be done by the state. Low participation of SMEs in PPP projects should not be blamed only on the failure of PPP firms, but should also be blamed on the government's failure to provide the right environment for PPP firms to use SMEs in PPP projects. The creation of such an environment involves the development of a clear policy on how SMEs should be involved in PPP projects. Such policy would assist PPP firms in engaging with SMEs for available opportunities within PPP projects.

5.4.4 Missing factors in the current South African PPP model

Respondents were also asked what they thought is missing in the current PPP model if it was to be used as a tool to alleviate poverty and unemployment. Respondents thought the model should specifically incorporate SMEs. If big projects can be divided into smaller projects where possible, to allow participation of SMEs in such projects, PPPs can be a good starting point to fight unemployment and poverty. The requirement for HDIs participation in PPP projects which indirectly includes SMEs, limit the potential of what can be achieved with PPP projects, because PPP firms bidding for PPP projects just aim to achieve the minimum and do not go beyond what the RFP requires. If the current requirement to involve HDIs/SMEs in PPP projects could be made a minimum requirement, it could be left open for bidders to propose more than the minimum and extra points could be awarded to those that propose to do more than the minimum requirement. Such an approach

could yield better results and maximise the potential of PPP projects in creating jobs and alleviating poverty. This means that the RFP should be incentive-based, meaning bidders that propose to do more than what the PFMA requires in terms of transformation should be allocated more points by the bid evaluators.

Other respondents think the concessionaire should have a built-in condition that would force PPP firms to develop SMEs and be given a period in which the public sector agency implementing the project can monitor the progress made. If the requirement is not met penalties should be effected. They argue that this is possible, as the PPP project has already brought together the private and the public sector, which is normally difficult to do. As discussed above, the two parties can work out a viable approach that can be used to develop SMEs in such a way that both parties benefit in the process. Incentives should be part of the procurement requirement so that PPP companies can respond to the RFP with innovative ideas on how they would develop SMEs.

There are those who argue that trying to force the participation of SMEs in PPP projects is not feasible, given the fact that PPP projects are big and require huge resources that SMEs do not have, and it may be difficult to break PPP projects down into smaller projects in order to accommodate SMEs. This argument may be correct at the construction stage of PPP projects; however at the operational stage the services that need to be provided by a third party to a PPP project are already disaggregated and they require different types of SMEs with different skill sets. Even at the construction there are a lot of activities that are performed by SMEs. The argument in this study is that it does not make sense to lump services such as maintenance, catering, security, laundry and toll/tariff collection together and award a contract to a single firm to provide them to the client. It is possible to award different contracts for these services to different SMEs to provide these services.

5.5 Conclusion

The results of the research survey has shown that PPP firms do outsource services to either SMEs or big firms and that a number of PPP firms have a policy that encourages the use of SMEs to provide certain services. However, the research

results found that these policies are really not SME policies, but a requirement as per the Preferential Procurement Regulations that preferences for awarding government tenders should be given to companies that are HDI- compliant. It has also been found that PPP firms outsource a number of services during the operational phase of the projects. Such services include but are not limited to asset maintenance of the assets, provision of security, catering services, laundry services, toll collection and IT services. PPPs that can outsource most of their services are water and sanitation, office accommodation and hospitals PPPs.

The study results have also shown that most of the outsourced services are provided by big firms, as the percentage in Rand value that goes to SMEs is small compared to the share that goes to big firms. The share of services provided by SMEs is high in the lower end (0 to 20%) and lower at the higher end (61% and above), while the share of services (in rand amount) provided by big firms is low at the lower end and high at the higher end. This shows that SMEs only provide a small percentage of the total services outsourced by PPP firms.

The study results also found that PPP firms do not give special treatment to SMEs when SMEs bid for a tender. This is because the requirements of most of PPP projects focus mainly on the technical and financial abilities to deliver the project in time and at the lowest cost possible and on the transfer of risk to the private party. This shows that in most cases SMEs are contracted based on fitness for purpose. The survey results also showed that the most challenges faced by SMEs in the PPP market is failure to deliver services on time and poor quality services delivered. The results showed that these problems are due to a lack of human capacity within the SME sector as a whole. Lack of human capacity had been identified in the literature as one of the main challenges that most SMEs are faced with. Poor management skills, which are also linked to a lack of human capacity was highlighted as the main reason why SMEs fail to deliver services at the right time and quality, followed by the lack of staff skills and access to finance.

Although SMEs provide services to PPP firms, however, SMEs struggle with many challenges, a number of PPP firms had helped SMEs with capacity building and

facilitated their access to finance, while another few have helped SMEs acquire the right technology for the services to be provided by the SMEs to the PPP firms. Most respondents thought the state should play a leading role in making sure that the participation of SMEs in PPP projects is improved by creating an environment conducive for both the SMEs and the PPP firms. This does not mean PPPs should not also take responsibility for the development of SMEs. Respondents thought that PPP firms should play a role in helping SMEs in areas where SMEs struggle, such as lack of human capacity and managerial skills.

In order to improve the current PPP model and to encourage the participation of SMEs, most of the respondents thought the South African PPP model should specifically or directly incorporate SMEs in its structure. The SME requirement should be incentive-based, as the minimum for HDIs as stipulated in the Preferential Procurement Regulations of 2001 limits the potential of what can be achieved with PPP projects. This is because PPP firms bidding for PPP projects just aim at achieving the minimum and do not go beyond what the RFP requires. In a case where the requirement to involve SMEs in PPP projects is made a minimum, it should be left open for bidders to propose more than the minimum, and those that propose to do more than the minimum requirement should be awarded. Such approach can yield better results and maximise the potential of PPP projects in creating jobs and alleviating poverty.

The study has also found that the main reasons why the public sector followed the PPP approach to procure infrastructure projects was to obtain the much needed skills, such as design and construction of big infrastructure projects which the public sector did not have at the time. Other reasons include securing private funding through private-party lending and equity contribution, as the public sector did not have the required finances to build the needed infrastructure. Transfer of risk to the private sector who is better able to manage it was also an important reason to go the PPP route and to take advantage of the private sector efficiencies in delivering infrastructure projects.

CHAPTER 6: SYNTHESIS AND ANALYSIS OF RESEARCH RESULTS

6.1 Introduction

Chapter 5 presented the research results based on the data collected through a research survey. This chapter analyses and synthesises the data and the survey findings presented in Chapter 5 to establish whether the data answer the research questions and prove or disprove the research propositions as presented in Section 6.2 below.

The chapter is therefore organised as follows: The second section (Section 6.2) gives a contextual overview of this chapter in relation to other chapters of the study. The third section gives an analysis and synthesis of the research information as presented in Chapter 5 in relation to the main research questions (MRQs) and their respective propositions. The fourth section summarises the research key findings and shows whether the research has answered the main research sub-questions and proved or disproved their respective propositions. The fifth section gives a summary discussion on the different challenges faced by PPP firms when using SMEs to supply them with goods and services, and suggests possible solutions to the identified problems. The last section gives the chapter summary.

6.2 Contextual overview of the research results

Chapter 5 forms the foundation on which the discussions in this chapter are based. As mentioned above, Chapter 4 presented the methodology or research approach for the study survey used to collect the information analysed in Chapter 5 and this chapter. The information collected through the survey and presented in Chapter 5 seek to answer the main research question of the study as presented in Section 1.13 in Chapter 1: ***“How can the South African government use PPP projects to develop its SME sector?”***

The information collected and presented in Chapter 5 covers information on a high level on PPP firms’ practices on outsourcing services to a third party (see Section

5.3.1), current practices in the use of SMEs by PPP project firms (see Section 5.3.2), challenges in using SMEs in PPP projects (see Section 5.3.3), how the participation of SMEs can be improved in PPP projects (see Section 5.4), and information on what roles should be played by both the public and private sectors in ensuring improved participation of SMEs in PPP projects (see Table 5.4 of Section 5.4.3).

The information presented in the above-mentioned sections and their subsections seek to answer the four main research sub-questions of the study (MRQI to MRQIV) and to prove or disprove their respective propositions (P1 to P4). The four main research sub-questions and their respective propositions are:

MRQI: How have PPP projects in the country helped SME development?

P1: Contracting SMEs to provide certain services to PPP firms has contributed to SMEs' growth in the country.

MRQII: What are the problems or challenges faced by PPP project firms when using SMEs to supply services?

P2: PPP firms face different problems when using SMEs to supply goods and services and lack of skills is the root cause of most of the problems.

MRQIII: How the involvement of SMEs be increased in PPP projects?

P3: There are a number of ways in which the involvement of SMEs in PPP projects can be enhanced.

MRQIV: Does an appropriate PPP model for increasing the participation of SMEs in PPP projects exist that will respond to the South African economic challenges?

P4: There is an appropriate model for sustainable SMEs development that can respond to the South African economic challenges.

The following section answers the respective research questions.

6.3 Answering the main research sub-questions (MRQs) and their respective propositions

The objective of this section is to answer the four main research sub-questions and to prove or disprove their respective propositions, with the aim of eventually answering the main research question that this study seeks to answer, as stated above. To answer the main research question the following research sub-questions and their propositions need to be answered:

6.3.1 Answering the first Main Research Sub-question (MRQI)

MRQI: How have PPP projects in the country helped SMEs development?

The research has found that PPP projects had helped SME development in the country in different ways. Both PPPs and SMEs working together in a PPP project had faced challenges. These challenges are as a result of several factors affecting SMEs' abilities to deliver services to PPP firms on time and in good quality. To prove that indeed PPP projects had helped SMEs' growth in the country, the current practices by PPP firms in terms of involving SMEs in PPP projects are presented under Section 5.3.1, 5.3.2 and 5.3.3 of Chapter 5. The analysis of these practices covers PPP firms' current practices in terms of outsourcing of services to SMEs and big firms (Section 5.3.1), PPP companies' policy on the use of SMEs (Section 5.3.1.1), services that PPP firms outsource to SMEs (Figure 5.4a) and types of enterprises that provide services to PPP projects (Figure 5.5). Following is a detailed discussion on the current PPP industry practices in using SMEs to provide services to PPP projects.

6.3.1.1 Policy on the use of SMEs by PPP firms

The current practice by PPP firms in terms of having a policy that facilitates the use of SMEs in PPP projects was presented in Section 5.3.1.1 of Chapter 5. This section shows that the majority of PPP companies outsource services they need to a third party. This third party can either be an SME or a big firm. It is also clear in this section that the majority of PPP firms had a policy on the use of SMEs in their PPP projects. Although the majority of PPP firms claimed to have a policy on the use of SMEs, the study also found that some companies confused SME policy with the

Preferential Procurement Regulations of 2001, which promotes the participation of Historically Disadvantaged Individuals (HDIs) in the economy. This was found during the complementary survey. However, what is important is that some PPP firms do make use of SMEs in their PPP projects (see Figure 5.5). This is an indication that PPP projects do help SME development in the country.

Although the majority of them claim to have a policy on the use of SMEs, the question that remains is how much of the outsourced work is provided by SMEs. The survey found that only a small portion of outsourced work is allocated to SMEs, while the bigger share is allocated to big firms (see Figure 5.8a and Figure 5.8b of Section 5.3.2.4). This is worrying because SMEs are seen as a catalyst for economic growth and development. This may also show that SMEs lack the capacity to undertake major PPP contracts; hence the low share as found by the study or this finding may also show that PPP firms deliberately decide not to contract SMEs in PPP projects.

The more SMEs used to provide services to PPP projects, the more job opportunities are to be created for the poor. Section 3.2 of Chapter 3 explains in detail why SMEs have a high potential to contribute to economic growth and development compared to big firms. As it has already been argued in Chapter 3, Section 3.2, SMEs are responsible for growing employment at a faster rate than large organisations, they increase the competitive intensity of the market and reduce the monopolistic positions of large organisations; while they also encourage the deployment of entrepreneurial skills and innovation. SMEs are therefore effective job creators and are sources of income for a big proportion of a country's population (AL-Mubarak and Aruna. 2013:157).

This research cannot definitively conclude that PPP firms have a policy on the use of SMEs to provide some of the services they need for their PPP projects. However, it can be concluded that many PPP firms are aware that they have to involve SMEs in the operation of PPP projects as subcontractors. It is not clear whether they involve SMEs because of their internal policy or because of the Preferential Procurement Regulations of 2001 that requires them to involve companies owned by HDIs, thus indirectly involving SMEs. However, the latter seems to be the possibility, as it is

difficult to believe why a private company should worry about developing SMEs, as its aim is to receive a good service; whether it is provided by an SME or a big firm does not matter.

6.3.1.2 Services PPP firms outsource and type of firms providing the service

Services that PPP firms can render or outsource to either SMEs or big firms and enterprises providing the services, and factors considered when awarding contracts to SMEs were presented in Section 5.3.2.1, 5.3.2.2 and Section 5.3.2.3 of Chapter 5 respectively. Figure 5.4a of Section 5.3.1.2 presents respondents' views and experiences on the usefulness of SMEs in PPP projects based on their experience from working in PPP projects, either from a government or a PPP firm's perspective. The results of the study showed that SMEs can, as they already do, provide services to PPP projects, especially at the operational phase of a PPP project (see Table 5.1 for services provided by SMEs to PPP projects). Table 5.2 of Section 5.3.2.1 shows the types of services that SMEs can provide to PPP projects during the operational phase. These include services such as maintenance of PPP assets, security, information technology, catering, toll collection and laundry services. Some of these services are already being provided by SMEs. The table also shows that some PPP projects have a potential to outsource more services to SMEs than others during the operational phase of the projects. It can be argued that these types of PPP projects have a high potential for job opportunities, compared to those that outsource few services to SMEs at their operational phases. The study has found that the role of big foreign firms and SME firms is small in the PPP market; however, the PPP market is dominated by big local firms, as they are the ones that have the financial and technical abilities to respond to the requirements of PPP projects. This finding is shown in Figure 5.5 of Section 5.3.2.2. The majority of services are supplied by either big local firms or local SMEs, as shown in Figure 5.5, with zero participation by foreign firms.

The study has also found that, although SMEs already provide services to PPP projects, the participation of SMEs in PPP projects is not at a satisfactory level. In order to increase the participation of SMEs in PPPs there is a need for a government policy that will force PPP project firms to effectively use SMEs in their PPP projects.

Table 5.4 of Section 5.4.3 gives respondents' views on how the participation of SMEs in PPP projects can be improved to a satisfactory level. The provision of start-up capital and skills to SME firms are some of the areas that respondents think need government's interventions in order to improve the effectiveness of SMEs in providing services to PPP firms.

This research can indeed conclude that there are services that PPP firms can or do currently outsource to SMEs. This proves that PPP projects in the country had helped SME development. There is no doubt that SMEs that have been providing services to PPP projects have developed some experience in providing these services to PPP projects, and that has assisted SMEs with developing expertise in the areas of subcontracting to PPP projects in particular and infrastructure projects in general.

6.3.1.3 Factors and priorities given by PPP firms in awarding contracts to SMEs

Section 5.3.2.3 of Chapter 5 presented research results on factors considered and priorities that PPP firms give to SMEs when awarding contracts to SMEs and also targets for awarding tenders to SMEs.

The research has found that the majority of PPP firms appoint SMEs mainly based on fitness for purpose (see Figure 5.6 in Section 5.3.2.3), meaning there is no preferential treatment given to SME when tendering for a PPP project. This practice puts SMEs at a disadvantage because most SMEs lack the technical and financial abilities to compete effectively with big firms for PPP tenders, especially if services to be provided to PPP projects are bundled together to few big projects that cannot be executed by SMEs due to resource requirements needed to execute big projects. This finding is supported by literature in that SMEs normally struggle with four things, namely human resources, access to market, access to technology and access to finance (see Section 3.3 of the Chapter 3). This finding supports the view that there is a need for government intervention in order to ensure that SMEs get special treatment when competing with large firms for PPP tenders.

This intervention can be in the form of a policy that forces PPP firms to set aside a certain percentage of the tender amount to be provided by SMEs. This is possible, especially when services to be provided to PPP projects are disbundled or disaggregated into smaller but viable projects that can be executed by SME firms. Table 5.2 of Section 5.3.2.1 in Chapter 5 shows some of the services that can be provided by SMEs at the operational phase of a PPP project, while Table 7.4 shows those services that can be provided by SMEs at both construction and operational phases of a PPP project. Most of these services do not require a lot of up-front capital investment and do not require too advanced technologies to provide them. However, if all these services were to be bundled together into one big project and to be provided by one firm, it can be difficult for SMEs to provide them because that would require a lot of up-front capital which many SMEs may not have. The subcontracting conditions should however be such that SMEs are able to participate even in capital-intensive projects. At the construction phase of the PPP project, PPP firms should be required by law to identify certain services that could be provided by SMEs. In a road PPP, such services could include installation of guardrails, road surface markings, road signs installation, plumbing work and other services that do not require large scale operation such as constructing the road itself.

A study by the Construction Industry Development Board (2013:6) undertaken in 2013, found that in South Africa the amount of work subcontracted to SMEs in the civil engineering construction is low compared to the total for the construction industry as a whole. In the civil engineering construction, general consensus is that 20%–30% of the tender value is subcontracted to both SMEs and large firms, compared to an estimated average of between 55% and 80% for the construction industry as a whole. However, these figures are estimates, as there is no accurate data in South Africa. In Hong Kong, this figure increased from 47% in 1983 to 60% in 2003. The low percentage in the civil engineering construction in South Africa is due to the capital-intensive nature of the projects. As a result, SMEs end up doing less capital-intensive work such as steel fixing, road marking and others. Given this information, it is clear that at the construction phase of PPP projects and other big infrastructure projects there is a reasonable level of subcontracting taking place, and this opens opportunities to ensure that SMEs are not left out. SMEs should not be

limited only to less capital-intensive work, but should be able to also participate in capital-intensive jobs. This can be made possible through government interventions to improve SMEs' abilities to access funding for bigger and capital-intensive projects. It is worth noting that today's SMEs are tomorrow's big construction firms, therefore their development from SMEs to big firms is imperative.

Although some of the PPP firms allocate contracts to SMEs as per the requirement of some tenders, this is not enough, as the tender requirement does not stipulate precisely as to how much of the tender should be given to SMEs; it merely specifies the percentage points to be given to a BEE compliant bidder as per the requirement of the Preferential Procurement Act of 2001. In this case, PPP firms can decide as they please on how much of the contract they will award to an SME. As discussed earlier, this requirement is not for SMEs, but for HDI-compliance which happens to include SMEs. Another worrying practice is that SMEs are only used by PPP firms when special skills are required (see Figure 5.6 in Section 5.3.2.3). This is worrying because most SMEs do not have special skills, as SMEs lack human capital compared to big firms. This may mean that most of such opportunities end up being awarded to big firms, as they are the ones who possess special skills, or, in some instances, have access to a few SMEs that may happen to have such skills. These would be the only SMEs who may be awarded the contracts.

As indicated by the Construction Industry Development Board's (CIDB) study referred to above small construction firms end up doing work that requires basic skills due to the capital intensiveness of some infrastructure projects. Although there are no figures that show the amount or value of the projects that is subcontracted to SMEs, the indication from the CIDB study is that this value is very small. This shows that there is little preferential treatment that SMEs receive from PPP firms as potential providers of services. SMEs have to compete with big firms on financial and technical abilities for contracts in PPP projects under the same conditions. Figure 5.6 shows that most of the PPP firms award contracts based on fitness for purpose. In most cases, if not all, these requirements weigh not less than 60% of the total requirements for a tender, and this puts SME companies at a disadvantage during the tender evaluation process. This can create a situation where one may find that

most SMEs only provide services to PPP firms that require basic skills as shown by the CIDB study alluded to above, a practice that may hinder the development of the SME sector.

SMEs should be given opportunities to provide all types of services, those that require special skills and those that require basic skills if we were to grow the SME sector in the country. However, to ensure that service quality delivered by SMEs to PPP firms is not compromised, SMEs will need to build capacity within themselves in those areas that are needed most in PPP projects. Government should also provide support to SMEs by making finances available for SMEs to undertake training on different financial and managerial skills. It is interesting to also note that the CIDB has initiated a number of SME development programmes in the construction industry aimed at developing small subcontractors. These include the development of standard skills that would result in nationally accredited outcomes through infrastructure contracts and standards for indirect targeting for enterprise development through construction works contracts (Construction Industry Development Board, 2013:10).

The study has also found that the majority of PPP firms do not vary their approaches to using SMEs, even if the project is located in a different geographic area (see Figure 5.7). Those PPP firms who vary their approaches to using SMEs if their project is in a different geographical location, appoint SMEs based on availability in the area, or consider proximity to the project site and SME's knowledge of the local environment (see Figure 5.7 in Section 5.3.2.3). These considerations make sense, provided SMEs are not treated as second best after big firms when awarded contracts by PPP firms. This is because this approach takes local content into account as it aims at giving local SMEs preferences over other SMEs that may come from different areas. This practice reduces costs for SMEs if they were to provide their services locally. This does not mean that opportunities should only be given to local SMEs; it means that local SMEs are likely to make a bigger profit from a local contract than SMEs coming from outside the geographical area, and that may help local SMEs' growth and sustainability. This approach can be made one of the requirements to be included in any government policy that would foster the use of

SMEs in PPP projects. The policy could require that qualifying local SMEs be given preferential treatment compared to other SMEs when tendering for a local project.

It can be concluded from the study that PPP projects have helped SME development in the country. However, SMEs are not given enough special treatment or consideration when PPP firms award contracts for services to be outsourced to a third party. In most cases SMEs compete with big firms under the same requirements, and SMEs struggle because they do not have financial and technical capabilities to out-compete big firms for contracts. The factors that are considered by PPP firms when awarding contracts to SMEs do not make SMEs attractive enough compared to big firms, as these factors do not empower SMEs to such extent that they become more competitive compared to big firms when competing for the same contract. However, as SMEs currently provide services to PPP firms, as the study has shown, it can be concluded that PPP projects have helped SME development in the country.

6.3.1.4 Targets for contracts to be awarded to SMEs

Section 5.3.2.4 of Chapter 5 presented research results on targets for contracts awarded to SMEs by PPP firms when outsourcing some of their services.

The study has found that although PPP firms argued that they have targets for awarding contracts to SMEs, the target they were referring to is the target as required by the Preferential Procurement Regulations (PPR) of 2001 (see Section 5.2.2.4 and Figure 5.8a). Therefore, it is likely that the results presented in Figure 5.8a do not reflect targets for SMEs but contracts that have been awarded to SMEs as a result of different factors including the PPR requirement. The worrying observation is that a big proportion of PPP firms indicated that they do not have targets for awarding contracts to SMEs. Although these firms do not have targets, this does not mean that they do not outsource their services to SMEs.

In my opinion, targets for awarding contracts to SMEs by PPP firms should not be an internal policy for PPP firms; it should rather be a government policy that requires all PPP firms to indicate the percentage share of the tender that will be allocated to

SMEs. The companies that propose a bigger share should then be given preference over those that are prepared to award less. This can ensure a consistent application of the policy across all PPP firms and consistent treatment of SMEs. This can also facilitate ease of monitoring the implementation of the policy by government or its agency. However, it is difficult at this stage to draw lessons from other countries on how they have incentivised PPP project firms to contract more SMEs in their projects, given the fact that there is no literature on the use of SMEs in PPP projects that the researcher has come across during the literature review of this subject.

PPP firms award a small share of the PPP contract to SMEs. The study has also found that those PPP firms that claimed to have a target for SMEs, award a small share of their contracts to SMEs, while the bigger share is awarded to big firms (see Figure 5.8b). It also shows that a large number of SMEs share a small percentage of the total contract compared to a few big firms that share a bigger percentage of the contract. This may be due to lack of capacity by SMEs or a deliberate decision by PPP firms not to contract SMEs or failure from the SMEs' side to participate in these projects due to a lack of certain resources such as capital. Such trend has a potential to exacerbate inequality or preserve long-term monopoly in the PPP market, as few big firms would remain dominant as long as there is no policy that encourages PPP firms to allocate a reasonable share of their contracts to SMEs. This practice is confirmed by the CIDB study as alluded to above in that, small construction companies which are also SMEs end up doing work that require basic skills due to the capital intensiveness requirements of infrastructure projects. It is normally the case that projects that require basic skills pay less compared to those that require advanced skills, and that is a clear indication that SMEs receive a small share of the total value of projects.

The share of SMEs in PPP projects is low. The share in rands amounts of contracts that are awarded to SMEs is only high at the lower end or percentage and becomes smaller as one moves towards the higher end percentages of the spectrum (see Figure 5.8b). This may be an indication that, as a contract becomes bigger, big firms prefer to render services to PPP firms rather than to SMEs given the capital-intensive nature of the service to be provided to the PPP project. This finding

confirms the suspicion revealed in Figure 5.5, that, although the biggest percentages of services are provided by both SMEs and big firms, SMEs are likely to be providing a small percentage of these services to the PPP firms.

The study can conclude that although SMEs are awarded contracts to provide services to PPP projects, the percentage share (in rand value) of these contracts that are awarded to SMEs is smaller than those that are allocated to big firms. This means that a high number of SMEs compete for a small share of PPP contracts compared to big firms.

6.3.1.5 Employment by SMEs providing services to PPP projects

The research results on employment by SMEs providing services to PPP projects were presented in Section 5.3.3.4 of Chapter 5. The results of the responses are shown in Figure 5.14 and Table 5.3. The results in Figure 5.14 show that the number of people employed by SMEs providing services to PPP projects is not that high. This may be a reflection of the fact that SMEs receive a smaller share of the contracts, especially in rand value compared to big firms (see Figure.5.8b). What is important to observe at this point is that SMEs providing services to PPP projects do create jobs and employment for the country.

According to a Construction Industry Development Board (CIDB) survey conducted in 2012, there are about 8 300 enterprises in the construction industry, of which and approximately 76% are black-owned¹⁵, creating about 1 000 000 employment opportunities. Another study by the Construction Industry Development Board (2004:30) conducted in 2004 estimated that about 51% of employees in the industry are employed on a short-term basis, 37% are permanent employees (comprising of supervisors, project managers and others) and 11% are managerial and administrative employees, also employed on a permanent basis. These jobs are created by about 8300 enterprises, of which approximately 76% are black-owned and the majority are SMEs. About 30% of the total value of all construction work in the country goes to big construction companies. This 30% include projects that have

¹⁵ Black ownership means at least 50% of the firms shareholding is owned by black people.

a value of more than R130 million. This category includes PPP projects. The same study found that there is a positive correlation between increased expenditure in infrastructure projects and the growth¹⁶ of SMEs from one grade to the next¹⁷.

An annual survey of SME growth in South Africa conducted by SBP (2013:4) found a strong positive correlation between SME turnover and employment growth. Approximately 50% of the 500 SMEs that participated in the survey that experienced turnover growth also reported an increase in their employment base. The study also found that SMEs are more likely to employ young and unskilled employees compared to big firms. This supports the argument that increasing the number of SMEs participating in PPP projects will have a positive impact on the unemployment rate in the country, as the high level of unemployment is among the youth and the low skilled labour force. This means that the more PPP projects are implemented, the more SME development would take place assuming unbundling of PPP projects is a legislated requirement for all big infrastructure projects including PPPs. An analysis of the rate of contractor growth (moving from one grade to the next grade) shows that about 10% of SMEs in the construction industry in grade 2 to grade 7 grow by at least one grade per year. In another survey of contractors registered with the CIDB, the majority of such contractors said an increase in spending by both the public and the private sectors on infrastructure is the most significant opportunity for growth for contractors in the construction industry.

It is worth noting that SME growth cannot be achieved without access to contract opportunities and that is why this study advocates for the unbundling of PPP projects into smaller projects where possible, to allow SMEs to access opportunities and to attain growth in the construction industry. It is worth noting that even the CIDB is advocating for various procurement models in the construction industry, including the unbundling of contracts to support socio-economic and developmental outcomes

¹⁶ Growth is defined in terms of financial capacity and size of the largest contract undertaken during the past five years.

¹⁷ Grade 1 representing largely job seekers that are eligible to undertake government quotations up to a value R200 000, and Grade 9 covering the largest and often publicly-owned enterprises with annual sales in the billions. SME grades mostly fall between Grade 2 and grade 7.

(Construction Industry Development Board, 2008). The unbundling of big projects is necessitated by the fact that SMEs fail to compete with large firms for big projects due to a lack of technical skills and financial abilities, and unbundling will allow SMEs to participate in large infrastructure projects with PPPs to provide only those services that can be provided by SMEs. According to a CIDB survey, big contractors, which account for about 7% of the total number of registered contractors, are estimated to account for about 75% in Rand value of all public sector contracts. This supports the study finding that SMEs are allocated a small share of the total value of PPP projects.

At the construction phase of PPP projects, most jobs are short-term, because construction work has definite start and completion dates, whereas at the operational phase of PPP projects, SMEs' services are required continuously as long as the project still provides the service it is intended to provide. A study conducted by Moilwa (2013:107) on SMEs in the construction industry in Gauteng found that SMEs provide services such as building construction, civil engineering, home improvement and other work, and 65% and 29% of the 17 SMEs interviewed indicated that they provide building construction and civil work respectively. All these services are required in a PPP project during the construction phase. During the study survey the researcher found that, at the operational phase of the PPP projects that formed the study sample, SMEs currently provide services such as cleaning, catering, pest control, grass cutting, asset maintenance, security, gardening, waste removal, plants nurturing, energy management and CCTV. It is worth noting that at the operational phase, most of the services required in a PPP project are long term. This is because PPP projects can run for more than 25 years.

Even if the contract given to an SME company at the operational phase of the PPP project can be short term, the services will be required for the duration of the concession, and a new firm will need to be contracted to continuously provide the services, should the contract with the first service provider be terminated. Whether the people are employed for a short or long term at the operational phase is not the problem of the PPP project; the problem is the decision of the PPP firm's management to sign short-term contracts with SME firms. This may be because PPP

firms want to mitigate against the risk of poor service delivery by SMEs, but what is important is that the services required will create long-term jobs, whether permanent or on contract basis. By the time a PPP project comes to an end, the SMEs may have graduated to be one of the big firms providing services to PPP projects and expanded to even become involved in other sectors of the economy. This is due to the fact that SMEs could secure a long-term contract with PPP firms, provided they are able to meet the expected service standards in terms of timeous delivery of services and delivering high quality service. Most SMEs struggle to meet these expectations (see Figure 5.10 of Section 5.3.3.1 on challenges facing SMEs in delivering services to PPP firms) and that is why government intervention is required in this market.

Table 5.3 in Section 5.3.3.4 shows that SMEs that are currently providing services to PPP projects that formed part of the study sample have created a number of jobs, and these jobs increase as the projects' years of operational increase. This shows that jobs are not only created but the number of such jobs grows over time as more and more of the service is required by consumers. For example, Table 5.3 shows that the number of permanent jobs created by some of the SMEs from the start of operation of some PPP projects to the date of the study survey have grown by more than 100%. These numbers exclude temporary employees. The longer the period the PPP project has operated, the higher the number of new jobs created over the period. This makes sense because over time the number of consumers using the service increases and more resources are required to provide the service. The reasons for such increases are threefold: firstly, most of the concessionaire contracts required the PPP firms to contribute to socio-economic development, and one way to achieve this requirement was to contract SMEs. Secondly, the other requirement was that after five years from the time the project started operating, for example, the PPP firm should be procuring at least 35% of its services from previously disadvantaged individuals, of which most happened to own SMEs. Thirdly, the increase in SME employment was also due to natural business expansion or an increased demand for the services provided through the PPP project.

In addition to the permanent jobs created by the PPP projects, as presented in Table 5.3, PPP firms also provided opportunities to other SMEs to provide certain services on an as-and-when-required base. Some of the concessioners' contracts required that a certain percentage of all procurements of goods and services be provided by SMEs on an as-and-when-required base. For example, one concessionaire contract required the PPP firm to allocate at least 32% of the value of its short-term contracts to SMEs. This approach is another way in which PPP projects contribute to growth and development of the SME sector.

It was also found during the survey that most of the contracts awarded to SMEs run for a period of between three and five years renewable. Under rare circumstances the contract could run for up to seven years, depending on the nature of the service provided. The reason why these contracts are short-term is due to the requirement of the concessionaire contract between the PPP firm and the public sector. Some concessionaire contracts require that PPP firms alternate the SMEs contracted to provide services to the PPP project so as to give other upcoming SMEs a change to grow. However, should a contract be terminated at the end of the period, some of the concessionaire contracts require that the new SME that is to take over the contract must retain at least 80% of the existing staff for continuity and other reasons.

Some of the concessions' requirements have been found to be constraining the number of people to be employed by the PPP firm. The researcher found that the public sector party determined the number of people that the PPP firm can employ without taking into account the fact that over time there would be an increase in demand for the services provided and more resources would be needed. Such clauses limit the ability of the PPP firm to contract more SMEs or for currently contracted SMEs to increase their labour force as the need arises. Before new employees can be added the PPP firm would need to make a motivation to the public sector party, as the costs of this increase would need to be paid by the public sector. Sometimes the public-sector party influences even the appointment of new employees and this defeats the objective of a PPP of transferring risks to the private party.

The study can conclude that infrastructure projects in general and PPP projects in particular have helped SME development in the country by providing opportunities to SMEs to provide services to PPP firms, thus contributing to the development of the SME sector. SMEs providing services to PPP firms create job opportunities for the country, and these jobs are long-term in nature, as PPP projects may run up to 25 years continuously, providing employment and income to those employed and their families, thus alleviating poverty and inequalities. However, the number of job opportunities created by these SMEs is small due to a number of factors as highlighted in the preceding paragraphs of this section.

Based on the above analysis this research has therefore answered the first main research sub-question (MRQ1): How have PPP projects in the country helped SME growth? For example, Section 6.3.1.2 has shown that SMEs currently provide services to PPP firms. Section 6.3.1.4 has shown that PPP firms have targets for awarding tenders to SMEs, while Section 6.3.1.5 has confirmed that SMEs providing services to PPP projects employ a number of people. This shows clearly that PPP projects have helped SME development in the country.

The following section discusses the research findings with regard to the first main research sub-question with the view of either to prove or disprove the first research proposition as stated in Section 6.2 above.

6.3.2 Proving or disproving Research Proposition 1 (P1)

P1: Contracting SMEs to provide certain services to PPP firms has contributed to SME growth in the country.

Following is a summary of the main findings from the analysis which was aimed at answering the first main research sub-question. These findings assisted the researcher to either prove or disprove the first research proposition as stated above.

- Section 6.3.1.1 of the research analysis found that PPP-project firms do outsource services to SMEs; however, the amount of work given to SMEs is

less than that given to big firms. This may be due to a lack of capacity by SME firms or a deliberate decision by PPP firms to limit the number of SMEs contracted to provide services to PPP projects.

- The research analysis in Section 6.3.1.2 showed that there are services that PPP firms can or currently outsource to SMEs. This shows that contracting SMEs to provide services to PPP projects had helped SMEs development in the country.
- Section 6.3.1.3 showed that PPP project firms do contract SMEs to provide services to PPP projects; however, SMEs are not given enough special treatment or consideration when PPP firms award contracts for services to be outsourced to a third party. In most cases SMEs are appointed based on fitness for purpose.
- Section 6.3.1.4 showed that although SMEs are awarded contracts to provide services to PPP projects, the percentage share (in Rand value) of these contracts that are awarded to SMEs is smaller than those that are allocated to big firms. It can however be concluded that the participation of SMEs in PPP projects has helped them build experience in PPP projects.
- Section 6.3.1.5 showed that SMEs providing services to PPP firms create job opportunities for the country, and some of these jobs are long-term in nature, as PPP projects may run up to 25 years or more, continuously providing employment and income to those employed and their families, thus alleviating poverty and inequalities. However the number of job opportunities created by these SMEs is constrained by a number of factors as highlighted in the preceding paragraphs of Section 6.3.

Based on the main conclusions of the above analysis, this research has therefore PROVED the first research proposition (P1): Contracting SMEs to provide certain services to PPP firms has contributed to SME development in the country.

The following section gives an analysis and synthesis of the different problems or challenges that SMEs face when providing services to PPP firms. It also gives an

analysis of possible solutions to these problems. Although SMEs have played a big role in providing services to PPP firms, SMEs have faced a number of challenges in meeting the expectations of PPP firms in terms of service delivery and quality. The section starts by presenting the second main research sub-question.

6.3.3 Answering the second Main Research Sub-Question (MRQII)

MRQII: What are the problems or challenges faced by PPP project firms when using SMEs to supply services?

This section presents the synthesis and analysis of the research results presented in Chapter 5 that relate to the second main research sub-question. The results of the analysis assisted the researcher to answer the second main research sub-question as stated above.

6.3.3.1 Challenges faced by PPP firms when using SMEs in PPP projects

The research results on the challenges faced by both SMEs and PPP firms working together in a PPP project are presented in Section 5.3.3 of Chapter 5. This section discusses different challenges that PPP firms face when dealing with SMEs in a PPP project. It also discusses their causes and the different ways in which these challenges could be overcome. The majority of PPP firms acknowledged that they do face problems or challenges with SMEs providing services to them. Section 5.3.3.1 has shown that a high number of PPP firms face challenges when working with SMEs.

Although the analysis focused mainly on challenges faced by PPP firms when using SMEs to provide services to PPP projects, it is worth noting that the same challenges that are faced by PPP firms are due to challenges faced by SMEs. The research results found that a high number of PPP firms do face challenges when using SMEs to provide them with certain services (see Figure 5.10). The challenges are due to the failure of SMEs to meet certain obligations between themselves and PPP firms. Most SMEs providing services to PPP firms struggle with three things, namely failure to deliver services when required by PPP firms, late delivery of services and poor quality of services delivered (see Figure 5.10 in Section 5.3.3.1). These problems are related to a lack of human capacity within SME firms. Many

SMEs employ a less-skilled labour force compared to big firms, thus causing SMEs not to benefit from economies of scale and scope, given the fact that they operate at a very small scale compared to big firms (see Section 3.3.2 on characteristics of SMEs). A study by SBP (2013:6) on South African SMEs found that one of the biggest challenges facing SMEs is skill shortages. According to Amra, Hlatshwayo & McMillan (2013:8), this may be due to the fact that SMEs tend to employ its personnel on a contract or fixed-term basis and the majority of those employed have less than matric qualifications. This assertion is supported by an SBP analysis (2013:5). Using Stats-SA data, it found that firms that have less than 49 employees are more likely to employ its workers on a fixed-term basis compared to firms that have more than 49 employees.

Any PPP model that seeks to improve participation of SMEs in PPP projects should be geared towards addressing these challenges. Section 3.3.2 of Chapter 3 discussed the human resources of SMEs in detail and highlighted what needs to be done in order to address SMEs human resources problems. As Cooke (2000:10) assert, SMEs that employ highly-skilled employees are likely to be more efficient, as they may increase productivity by producing a high level of output or by producing output of greater value.

There is no doubt that the lack of human resources capacity by SMEs may affect the operations of PPP projects. This is because failure of SMEs to deliver a service when the service is required by PPP firms may also cause the PPP firm to fail to meet its own obligations with the government department responsible for the PPP project. This may eventually result in other problems, such as public unhappiness/dissatisfaction with the quality of service provided by PPP firms. Failure by SMEs to deliver a service when required or failure to deliver good quality services to a PPP firm may also result in PPP firms being reluctant to use SMEs to provide services to its projects (see Figure 5.15b in Section 5.3.3.5 on why few SMEs participate in PPP projects). These problems may have wide-ranging implications in terms of promoting the participation of SMEs in PPP projects and the acceptance of PPP projects by citizens of a country. Public unhappiness with services delivered through PPP projects may render PPP projects irrelevant in the country.

The poor quality of services delivered can be addressed by providing the necessary skills through training SMEs employees and their managers. This training can be provided by government through certain programmes aimed at building SME capacity. The failure of SMEs to deliver services may also be due to the fact that most SMEs lack the financial resources needed to provide training for their employees and to deliver the services they have to deliver to PPP firms.

This may also be the root cause for their failure to deliver services on time, as they may not have the required skills to plan appropriately. It should be noted that not all SMEs fail to deliver services in time and in good quality; however, the majority of SMEs do face difficulties. The OECD (2006b:4) asserts that finance is needed by SMEs in order to expand their operations, develop new products and invest in new staff or production facilities. This shows that, even though SMEs can have access to markets, they may fail to compete effectively if they do not have appropriate human resources or finances required to respond to the challenges they may face in the market.

The difficulty for SMEs to attract highly-skilled personnel is due to the fact that most SMEs do not offer good employee benefits compared to well-established big firms. As a result, even if SMEs happen to employ highly-skilled or experienced personnel, the highly-skilled personnel is more likely to leave an SME company and join a big firm that may offer them attractive packages. Staff retention is a big problem for SMEs compared to big firms, as most SMEs employ their personnel on a contract basis and that encourages staff to continuously look for a permanent job elsewhere (Amra, Hlatshwayo & McMillan (2013:7).

It can be concluded that PPP firms do indeed face problems or challenges when using SMEs to provide certain services to PPP projects. These challenges may have wide-ranging implications in terms of promoting the participation of SMEs in PPP projects if left unaddressed.

6.3.3.2 Causes of challenges and their possible solutions

The survey results on causes of challenges faced by PPP firms when using SMEs to supply them with certain goods and services are presented under Section 5.3.3.2 of Chapter 5.

The study has found that the main causes for the challenges faced by PPP firms when using SMEs as service providers are: lack of skills, lack of appropriate technology, poor management skills and poor relationship between SMEs and PPP firms (see Figure 5.11). The main reasons why SMEs encounter these problems is mainly due to poor education level or quality of education and poorly trained SMEs personnel combined with a poor employee retention rate that results in less experienced SMEs personnel. Lack of collateral and a poor credit history for many SMEs make it difficult for them to access funding from financial institutions. A study conducted by Bakhas (2009:14) found that lack of collateral and other factors are the major reasons why SMEs struggle to have access to finance in the North West Province. This challenge is likely to apply to most SMEs operating in the South African economy. Poor relationship between SMEs and PPP firms respectively does not seem to be a major cause of SME problems.

Continuous improvement of SME personnel expertise through continuous training needs to be a priority for government and SMEs themselves. Although access to finance did not seem to be a big issue for SMEs compared to poor management skills and the general lack of skills as discussed above, it is however a problem, as for SMEs to build the capacity that is needed to respond to the human resources needs as highlighted in Figure 5.11, SMEs must first have the budget to address these issues. It is likely that the lack of skills by SMEs is due to the fact that most SMEs do not have enough finances to attract the right skills or to up-skill their existing employees to the required skill levels.

Improving the quality of skills for SMEs employees would aid in improving the quality of services that SMEs render to PPP firms. Section 3.3.2 of Chapter 3 discussed in detail the advantages of having a highly-skilled workforce for SMEs. Once SMEs

have access to finance, they would be in a better position to expand their operations, thus benefiting from economies of scale and scope and be able to meet the demands of PPP firms. The impact of these SME problems to PPP firms is significant (see Figure 5.12). Poor management skills by SME firms have the biggest impact on the quality and timely delivery of services. Improving managerial skills of SMEs can go a long way in alleviating the other problems faced by SMEs, as discussed above.

The question is: “*Who should help SMEs with skill development and access to finance?*” In my view the government, the PPP firms and the SMEs themselves should all play a role in improving the capabilities of SMEs in meeting their clients’ expectations. The following section focuses on how SMEs can be assisted to overcome these challenges. Once SMEs are able to meet the expectations of PPP firms in terms of quality and timely delivery of services, it is expected that more SMEs would be afforded opportunities by PPP firms to provide services to PPP projects, thus expanding the benefits of increasing the involvement of SMEs in PPP projects, as discussed in Section 3.2 of Chapter 3.

It can be concluded that most of the problems that PPP firms face when using SMEs to provide services to PPP projects are caused mainly by lack of managerial and other appropriate skills by SME employees. Improvement in these skills needed by SMEs can go a long way in alleviating most of the challenges faced by SMEs providing services to PPP projects.

6.3.3.3 Interventions by PPP firms to help SMEs cope with challenges

Research results on the different interventions made by PPP firms in helping SMEs cope with identified challenges were presented in Section 5.3.3.3 of Chapter 5. Although some PPP firms did nothing (see Figure 5.13) in terms of helping SMEs cope with the challenges that PPP firms faced when using SMEs, some PPP firms assisted SMEs with the development of human capacity, access to the right technology and access to finance. The interventions made by PPP firms are in line with the challenges faced by SMEs, as indicated in Figure 5.10. The interventions that are required to address these challenges are discussed in Section 5.3.3.2

above. This means that PPP firms responded appropriately to the challenges they encounter when using SMEs in their PPP projects (see Figure 5.13). Improvement in the human capacity of SMEs by providing training to SMEs received the greatest attention from PPP firms, followed by underwriting SME loans to improve access to finance so that SMEs can acquire the right technology (see Figure 5.13).

Although PPP firms should also help SMEs improve their human capacity and access to finance, I believe government should play a leading role when it comes to improving human capacity and access to finance for the SME sector. PPP firms can only play a complementary role in addition to any assistance provided by government. Government could make special funds available for SMEs general and SMEs working in PPPs in particular. There are already a number of these initiatives in the country, as discussed in Section 3.5 in Chapter 3, but what is being highlighted here is that such initiatives have not produced the intended results, as SMEs are still struggling with the very same issues. This is because there are many state departments that are responsible for SME development in one way or another and their activities or interventions are not coherent. Therefore there is a need for alignment of all these interventions to achieve maximum benefits for what they intend to achieve. A PPP model that would help the development of a sustainable SME sector needs to take into account all these challenges.

It can be concluded that PPP firms had assisted SMEs to cope with the challenges that SMEs faced when providing services to PPP projects, and the interventions by PPP firms responded appropriately to the challenges identified, which are lack of appropriate skills either at managerial level or employee level. Although some PPP firms did nothing (see Figure 5.13) in terms of helping SMEs cope with the challenges that PPP firms faced when using SMEs, some PPP firms assisted SMEs with training to develop human capacity, access to the right technology and access to finance. However, the problems related to human capacity that SMEs face cannot be completely eliminated because SMEs have a high staff turnover rate compared to large firms for reasons already discussed earlier.

6.3.3.4 Challenges in fostering the use of SMEs by PPP firms

The presentation on the research results on challenges faced by both PPP firms and government in fostering the use of SMEs in PPP projects are presented in Section 5.3.3.5 of Chapter 5. The main challenges respondents identified and which are faced by PPP firms in fostering the use of SMEs in PPP projects are; (i) the extent of risk that can be transferred to SMEs can be too high for SMEs, (ii) the National Treasury PPP Unit needs to be first well-resourced and minimise staff turnover before PPP firms can consider using SMEs intensively, (iii) the quality of work provided by some SMEs is poor, thus PPP firms are reluctant to use SMEs, as most SMEs lack experience and capacity, (iv) PPPs are too expensive for SMEs, and the finances needed by SMEs to participate in PPP projects can be difficult to access for most SMEs (see Section 5.4, Figure 5.15b and Table 5.4).

However, unbundling services to be provided to PPPs projects could create a good opportunity for SMEs to participate in PPP projects and reduce most of the risks that can be transferred to SMEs. Most of the services that can be provided by SMEs during the operational phase of PPP projects require less capital and that makes them affordable to SMEs (see Table 5.2 in Section 5.2.2.1 in Chapter 5 for services that can be provided by SMEs). Even during the construction stage of a PPP project, certain services do not require huge up-front capital outlay; such services can be provided by SMEs.

What needs to be done is that the human capacity of SMEs be improved so that they can be in a position to handle these challenges. Fostering the use of SMEs in PPP projects without improving the human resources capacity of SMEs would not yield the results expected from such an intervention. SMEs must be ready and able to deliver services to PPP projects. It is clear that, to get SMEs to the level where they should be in terms of service delivery to PPP projects, there is a need for SME empowerment in one way or the other, especially in the area of skills development.

From the public sector's perspective, the main challenges in improving the participation of SMEs in PPP projects was found to be the lack of suitable SMEs to

provide the required services (see Figure 5.15b). Some of the public sector respondents asserted that most of the SME companies are technically and financially weak, and risk averse. As a result, even if they get a contract with PPP firms, some of them opt out for financial compensation and are bought out of the projects by big firms (see Section 5.3.3.5). These type of challenges form the 51,5% as indicated in Figure 5.15b. Because of SMEs' failure to meet their obligations they have with PPP firms in terms of delivering services in time and in good quality, many PPP firms become reluctant to use SMEs. This is because the services to be provided to PPP projects are bundled together to big projects. Should the services be sliced into smaller but viable projects, as proposed in this study, SMEs would be able to deliver the services as required by the PPP firms with minimum assistance or even without assistance in some cases.

This may be true in that PPPs are a new field for many companies, including the public sector itself. Many SMEs have not yet gained experience in providing services to PPP projects. As mentioned earlier, this means the public sector needs to put more resources in training and continuous up-skilling of SMEs with the skills required in the PPP market. Table 5.4 gives respondents' opinions on what needs to be done by the public sector in order to improve participation of SMEs in PPP projects.

It can be concluded that there are challenges faced by PPP firms and government when trying to enhance the participation of SMEs in PPP projects in the country. Most of the problems are as a result of SMEs not being well-empowered to deliver services as required by PPP projects. In most cases it is because SMEs lack skills and relevant experience to respond effectively to the needs of PPP projects.

Based on the above analysis, this research has therefore answered the second main research sub-question (MRQII): What are the problems or challenges faced by PPP project firms when using SMEs to supply services? This was done by identifying the different challenges (see Section 6.3.3.1), causes of the challenges (see Section 6.3.3.2), interventions made by PPP firms to address the challenges (see Section 6.3.3.3) and challenges in fostering the use of SMEs by PPP firms (see Section 6.3.3.4).

The following section provides a summary of the research findings with regard to the second main research sub-question with the view of either to prove or disprove the second research proposition as stated in Section 6.2.

6.3.4 Proving or disproving Research Proposition 2 (P2)

P2: PPP firms face different problems when using SMEs to supply goods and services, and lack of skills is the root cause of most of the problems.

Following is a summary of the main findings from the analysis in Section 6.3.3 which was aimed at answering the second main research sub-question. The analysis and the findings assisted the researcher to either prove or disprove the second research proposition as stated above. Below are the main findings on the different challenges facing PPP firms when using SMEs to provide them with certain services.

- The analysis in Section 6.3.3.1 identified different problems or challenges faced by PPP firms when using SMEs to provide certain services to PPP projects. These challenges include failure by SMEs to deliver services on time and in good quality. It also found that lack of skills by SMEs is the root cause of most of these challenges. These challenges may have wide-ranging implications in terms of promoting the participation of SMEs in PPP projects if left unaddressed.
- Section 6.3.3.2 found that most of the problems that PPP firms face when using SMEs to provide services to PPP project firms are caused mainly by lack of managerial skills and technical expertise by SME employees. In addition to these challenges, a lack of appropriate technology and a poor relationship between SMEs and PPP firms also contribute to the challenges.
- Section 6.3.3.3 found that PPP firms had assisted SMEs to cope with the challenges that SMEs faced when providing services to PPP projects, and the interventions by PPP firms responded appropriately to the challenges identified, which are lack of appropriate skills either at managerial level or

employee level. The interventions made by PPP firms were in line with the challenges faced by SMEs.

- Section 6.3.3.4 concluded that there are challenges faced by PPP firms and government when trying to enhance the participation of SMEs in PPP projects in the country. Most of the problems are a result of SMEs being not well-empowered to deliver services as required by PPP projects. In most cases it is because SMEs lack skills and relevant experience to respond effectively to the needs of PPP projects. It has also been found that most SME companies are technically and financially weak, and risk averse as a result; even if they get a contract with PPP firms, some of them opt for financial compensation and are bought out of the projects by big firms, thus derailing the participation of SMEs in PPP projects.

Based on the above main findings of the research analysis, on problems faced by PPP firms when using SMEs to supply goods and services to PPP projects, this research has proved the second research proposition (P2): PPP firms face different problems when using SMEs to supply goods and services and lack of skills is the root cause of most of the problems.

The following section gives an analysis and synthesis of the different ways in which the involvement of SMEs can be improved in PPP projects. Although SMEs have played a big role in providing services to PPP firms, the participation of SMEs in PPP projects is still very low. The section starts by presenting the third main research sub-question.

6.3.5 Answering the third Main Research Sub-Question (MRQIII)

MRQIII: How can the involvement of SMEs be increased in PPP projects?

This section present the synthesis and analysis of the research results presented in Chapter 5 that relate to the third main research sub-question. The results of the

analysis assisted the researcher to answer the third main research sub-question. Following below is the synthesis and analysis of the research results.

6.3.5.1 SMEs as a requirement for public-private partnership projects

The presentation of the research results on how the participation of SMEs in PPP projects can be improved is covered under Section 5.4 of Chapter 5. Most of the information on this section was collected through the open ended questions of the questionnaire and through the supplementary survey.

The research results showed that involving SMEs in PPP projects is not a legislated requirement, as most respondents indicated that they were not aware of any policy that forces PPP firms to make use of SMEs in the operation of PPP projects. However, indirectly through the PPR process, SMEs get involved in PPP projects as PPP firms need to be BEE compliant (see Section 5.4.1). It needs to be noted that this requirement only include enterprises owned by HDIs thus it excludes other enterprises that are not owned by HDIs, and this may limit the potential of PPP projects to develop the SME sector in the country. The study also found that the main reasons (see the first paragraph of Section 5.4.1) given by the public sector for procuring infrastructure through PPPs was to (i) obtain the much needed skills which the public sector did not have at the time, (ii) secure funding for the projects (iii) transfer of risk to the private sector which is better able to manage it, (iv) take advantage of the private sector efficiencies in delivering infrastructure projects, and (v) achieve value-for-money in project procurement. This shows that there had never been a plan to use PPP projects to develop the SME sector in the country. It should be noted that, at the operational stage of PPP projects, all these risks are small as the project would have been completed.

The biggest risks are during the construction phase of PPP projects. During this phase government want to transfer risks and secure funding and skills from the private sector. This is not the case during the operational phase of the PPP projects. Involving SMEs at the operational phase of PPP projects would not compromise the above-mentioned five objectives of governments. However, even at the construction stage, if PPP projects can be unbundled and select those tasks that can be provided

by SMEs, that can limit the risks that government may be worried about, as SMEs can only deliver those parts of the PPP project that carry less risks. Such services may include guardrail installations, road lines marking and other services that are needed in a road construction PPP project, such as the construction of small bridges and many others.

For the country to be able to use PPP projects to develop the SME sector, there is a need to consider including “developing the SME sector” or something to this effect as one of the objectives for using PPPs to procure the needed infrastructure. The question that one should ask is: How can this be done? This can be done through legislation. Including “developing the SME sector”, as one of the objectives for using PPPs to procure infrastructure projects will assist in improving the participation of SMEs in PPP projects. For example, in her budget speech for the 2015/16 financial year, the Minister of Small Businesses in South Africa, mentioned that a policy is being developed that will force big firms contracted by government to allocate at least 30% of their tenders to be supplied by SMEs (Chapter 7 of this study shows in detail how SMEs can be incorporated into the current South African PPP model structure in order to address the shortcomings of the current PPP model). This requirement should be included in the PPP legislation. This is because, once government has awarded a PPP contract to a private party, in a way the government has locked itself out of the project. This means that the government has limited control on how the project is to be executed.

This is not the case when the traditional approach is used to procure a project. If the traditional approach is used, the government always has the right to make any changes as it wishes, because it always has full control of the project, as all subcontractors to the project are appointed by the government or client and remain under government control. This is not the case when the PPP approach is employed: as soon as the project is awarded to the PPP firm, government loses its control of the project, as the project control becomes ring-fenced. That is why the “developing the SME sector” requirement should be a policy and not part of the concessionaire. Potential bidders should indicate in their bidding documents how they would involve SMEs in the PPP project. In this case governments should also put in place a

support mechanism that would address SMEs challenges in order to facilitate ease implementation of the policy.

The study has also found that, before the PPR Act came into being in 2001, the Request for Proposals (RFP) for PPP projects required that bidders indicate how they would support socio-economic development initiatives of government during both the construction and operational phases of the projects (see paragraph 3 of Section 5.4.1 in Chapter 5). As a result bidders would mention the use of SMEs as one way in which they would promote socio-economic development initiatives of government. However, these SMEs were only limited to HDI- owned SMEs. Nonetheless, this approach encouraged innovation on how to maximise the benefits of using PPPs, as many bidders achieved a higher percentage of SMEs participation than the minimum required by the current regulation of not more than 10 percentage points awarded to a company that contracted a HDI-owned firm.

Currently bidders just strive to meet the bare minimum required and that hinders innovation on how to use SMEs in PPP projects. This is because firms that propose to do more than the minimum are not acknowledged or given extra points during bid evaluation. Bidders do not have an incentive for proposing to do more because they are not rewarded any points to do so. This is because this requirement is not compulsory, but only increases bidders' chances of winning the tender. This means that a bidder can still not fulfil this requirement, capitalise on the remaining 90% points and still get awarded the tender. This shows that there is a need to incentivise bidders who are prepared to do more than the required minimum. The 10 percentage points given to BEE compliant bidders should be used as a minimum requirement, and any bidder that proposes to do more than the minimum should be awarded extra points during the bid evaluation process.

In order to increase the participation of SMEs in PPP projects the study can conclude that government, through a policy developed with the aim of improving the participation of SMEs in PPP projects, should incentivise bidders who are prepared to do more than the required minimum BEE requirement. The 10 percentage points given to BEE compliant bidders can be used as a minimum requirement and any

bidder that proposes to do more than the minimum must be awarded extra points during the bid evaluation process. Secondly, the use of SMEs in PPP projects should be one of the main requirements for PPPs' request for proposals (RFP), as already discussed above.

The study can conclude that SME participation is not one of the objectives for using PPPs to procure infrastructure, as the main objective is to achieve value for money. Bidding requirements for PPP projects tend to focus more on the technical and financial abilities of service providers to deliver a PPP project at the right time and the right cost, with a small requirement for compliance with the transformation laws of the country.

6.3.5.2 Expectation by government for PPP firms to meet a certain SME requirement

The study results on expectations by government for PPP firms to meet a certain SME requirement is presented in Section 5.4.2 of Chapter 5. The study has found that there were no expectations by government for PPP projects to meet certain SME requirements (see the first paragraph of Section 5.4.2). The main expectation from the government was that PPP projects be delivered on time and within costs and that they should meet the BEE requirement as stipulated in the PPR Act of 2001. Before the PPA Act of 2001, expectations were only made once the bidders had proposed as to how they would contribute to socio-economic initiatives of government when bidding for the project (see the second paragraph of Section 5.4.3 in Chapter 5). The proposals were used as a basis for performance-monitoring purposes against which the PPP firm's performance was measured. As asserted earlier, with regards to monitoring their commitments, the companies had to submit quarterly/bi-annual empowerment reports to the public sector entity responsible for the project. The promises made in the proposal/bid became a commitment against which the performance of the service provider was measured.

An approach similar to this approach can be used by government if it intends to improve the participation of SMEs in PPPs. As discussed in Section 6.2.3.1, government should develop a policy that will force PPP firms to set aside a certain

percentage of the PPP contract to be awarded to SMEs. In order to ensure that the participation of SMEs is improved, government can then put in place a monitoring system that will monitor the implementation of the policy. This can be done by requiring all PPP firms to submit quarterly reports on progress made in terms of involving SMEs in their PPP projects. This can include information such as the number of SMEs contracted by the PPP firms and the Rand value of all contracts awarded to SMEs involved in the PPP project.

The study can conclude that there were no expectations by government for PPP firms to meet certain requirements on involving SMEs in PPP projects. However, the study has found that the participation of SMEs can be improved by putting in place some incentives to encourage PPP firms to improve SMEs participation in PPP projects and also by putting a monitoring system that would monitor the implementation of any policy developed by government with the aim of improving the participation of SMEs in PPP projects.

6.3.5.3 Improving the participation of SMEs in PPP projects

The research results on improving the participation of SMEs in PPP projects are presented in Section 5.4.3 of Chapter 5. When respondents were asked to give their opinion on how they thought the participation of SMEs in PPP projects could be improved and were also asked about who they thought should play a significant role in improving the participation of SMEs in PPP projects, several opinions emerged in response to this question (see the first paragraph of Section 5.4.3). The most prominent ones are that: (i) the state should start by creating an environment conducive for both the SMEs and the PPP firms, (ii) the participation of SMEs should be made a mandatory requirement through legislation, (iii) state should provide training to SMEs in areas where SMEs struggle, such as providing managerial skills and financial management skills, (iv) the concessionaire should drive the participation of SMEs, while the state monitors progress and address any obstacles, (v) the state needs to have a clear policy direction and make consistent decisions or policy statements to improve the regulatory environment, and (vi) policy decisions need to be taken promptly by the state, especially on issues that affect private sector investment decisions. Table 5.4 of Section 5.4.3 of Chapter 5 gives a comprehensive

summary of the different respondents' opinions on how the participation of SMEs in PPP projects can be improved.

The above assertions make sense as conducive PPP market conditions are imperative for enhancing SMEs participation in PPP projects. However, it should also be noted that the focus should not only be on improving participation of SMEs in PPPs; it should also be in improving the rate and the number of PPP projects implemented in the country so as to expand the PPP market and allow it to absorb more SMEs. This will enable the country to receive the full benefits that can be offered by PPP projects. This includes improving the country's investment climate as a whole as this can improve certainty in the economy and investor confidence. Once the private sector has certainty and confidence about the future direction of government policy, the results would be an increase in private sector investment in the country as a whole, resulting in more money available from the private sector to invest in PPP projects.

The study can indeed conclude that there are many ways in which the participation of SMEs in PPP projects can be improved. However, for these ideas to work, government needs to play an active role in the process by creating the necessary conditions that would be conducive for both the PPP firms and the SMEs themselves. This include empowering the SMEs with the required skills and encouraging PPP firms to make use of SMEs in all PPP projects through policy intervention.

Based on the above analysis, this research has therefore answered the third main research sub-question (MRQIII): How can the involvement of SMEs be increased in PPP projects? Sections 6.3.5.1, 6.3.5.2, and 6.3.5.3 give different ways in which the involvement of SMEs in PPP projects can be improved.

The following section gives a summary of the main research findings with regard to the third main research sub-question with the view of either to prove or disprove its proposition (P3).

6.3.6 Proving or disproving Research Proposition 3 (P3)

***P3:** There are a number of ways in which the involvement of SMEs in PPP projects can be enhanced.*

The following is a summary of the main research findings related to the third research sub-question (**MRQIII**), showing that indeed there are different ways in which the involvement of SMEs in PPP projects can be improved.

- Paragraph 3 of Section 6.3.5.1 concluded that, for a country to be able to use PPP projects to develop the SME sector, there is a need to consider including “developing the SME sector” as one of the objectives for using PPPs to procure the needed infrastructure. This can assist in improving the participation of SMEs in PPP projects.
- Paragraph 4 of Section 6.3.5.1 concluded that bidders for PPP projects should be incentivised in order to allow more SMEs in their PPP projects and reward those bidders that are prepared to do more than the required minimum as prescribed by the PPA Act. The 10 percentage points given to BEE compliant bidders as per the PPA Act can be used as a minimum requirement and any bidder that proposes to do more than the minimum should be awarded extra points during the bid evaluation process.
- Paragraph 2 of Section 6.3.5.2 concluded that government should develop a policy that will force PPP firms to set aside a certain percentage of the PPP contract to be awarded to SMEs. In order to ensure that the participation of SMEs is improved, government can then put in place a monitoring system that will monitor the implementation of the policy.

- Section 6.3.5.3, showed that there are indeed many ways in which the participation of SMEs in PPP projects can be improved, including the unbundling of PPP projects. The first paragraph of this section lists a number of ways in which the participation of SMEs can be improved. However, for this to work, government needs to play an active role in the process by creating the necessary conditions that would be conducive for both the PPP firms and the SMEs themselves.

Based on the above main conclusions of the research analysis on the number of ways in which the involvement of SMEs in PPP projects can be enhanced, this research has therefore proved or confirmed the third research proposition (P3): There are a number of ways in which the involvement of SMEs in PPP projects can be enhanced.

The following section gives an analysis and synthesis of the research results presented in Sections 5.3.3 and 5.4.4 of Chapter 5. The analysis discusses the appropriate PPP model for sustainable SMEs development that can respond to the South African economic challenges with the view to answer the fourth main research sub-question.

6.3.7 Answering the fourth Main Research Sub-Question (MRQIV)

***MRQIV:** Does an appropriate PPP model for increasing the participation of SMEs in PPP projects exist that will respond to the South African economic challenges?*

This research question is the ultimate question that this study seeks to answer. The information discussed, analysed and synthesised in the previous chapters and in this chapter is meant to give an answer to this question.

Sections 5.3.3 and 5.4.4 of Chapter 5 discussed possible ways in which the current South African PPP model could be improved in order to facilitate the use of SMEs in PPP projects. The results of the research showed that the current South African PPP model lacks certain elements which are important in facilitating SME participation in

PPP projects. In Sections 6.2.3.1, 6.2.3.2 and 6.2.3.3 the research found that an appropriate model for SMEs development should

- (i) specifically incorporate SMEs as part of the PPP model structure (see Table 5.4 on how the participation of SMEs in PPP projects can be improved). SMEs should not just be add-on but should be permanent features of the PPP model,
- (ii) allow big PPP projects to be divided into smaller but viable projects at both operation and construction phases of PPP projects.,
- (iii) make the BEE as stipulated by the PPR Act of 2001 a minimum requirement to encourage PPP firms to be innovative on how they would support SMEs. Section 5.3.1.2, discussed how activities in a PPP project can be disaggregated into manageable but viable small projects,
- (iv) have a condition built in the concession that would encourage PPP firms to develop SMEs,
- (v) develop a programme within the PPP model that would support skills development for SMEs participating in PPP projects. Such programmes should be geared towards addressing the challenges faced by SMEs when providing services to PPP firms, as identified in Section 5.3.3.2 of Chapter 5, and
- (vi) incorporate the different institutional SME models discussed in Annexure D into the current South African PPP model to address the different challenges SMEs are faced with when providing goods and services to PPP firms.

The study can conclude that an appropriate PPP model for sustainable SMEs development that can respond to the South African economic challenges does exist. This model can be developed based on the research findings of this study. The main focus of Chapter 8 is therefore on the development of such a model.

Based on the above analysis, this research has therefore answered the fourth main research sub-question (MRQIV): Does an appropriate PPP model for increasing SMEs participation in PPP projects exist that will respond to the South African economic challenges? The above analysis of Section 6.3.7 showed with the aid of examples the type of a PPP model that is appropriate to

develop a sustainable SME sector and respond to the South African economic challenges.

6.3.8 Proving or disproving Research Proposition 4 (P4)

P 4: There is an appropriate model for sustainable SMEs development that can respond to the South African economic challenges.

This section of the study discusses the main conclusions of the analysis in Section 6.3.7, with the aim of proving or disproving the fourth research proposition as stated above.

Paragraph 2 of Section 6.3.7 lists a number of different ways and factors/components the traditional PPP model and the current South African PPP model would need to incorporate into its structure and the role that the policy-makers need to play in order to develop an appropriate PPP model for sustainable SME development that will respond to the South African economic challenges.

Based on the above main conclusion of the research analysis, this research has therefore proved or confirmed the fourth research proposition (P4): There is an appropriate model for sustainable SMEs development that can respond to the South African economic challenges.

6.4 Summary of data and research propositions

Table 6.1 presents a summary of the propositions tested through the data collected during the study survey. It shows the research questions answered, propositions proved or disproved, analysis of data, and the conclusion related to each proposition.

Table 6.1: Summary of research propositions, data presentation and analysis

Research questions answered	Propositions proved or disproved	Presentation of data (chapter and section)	Analysis of data (chapter and sections)	Conclusion
1. How have PPP projects in the country helped SME development?	Contracting SMEs to provide certain services to PPP firms has contributed to SME growth in the country	Chapter 5: Section 5.3.1 and 5.3.2	Chapter 6: Section 6.3.1	Proved
2. What are the problems or challenges faced by PPP project firms when using SMEs to supply services?	PPP firms face different problems when using SMEs to supply goods and services, and lack of skills is the root cause of most of the problems	Chapter 5: Section 5.3.3	Chapter 6: Section 6.3.3	Confirmed
3. How can the involvement of SMEs be increased in PPP projects?	There are a number of ways in which the involvement of SMEs in PPP projects can be enhanced	Chapter 5: Section 5.3.4	Chapter 6: Section 6.3.5	Confirmed
4. Is there an appropriate existing PPP model for increasing the participation of SMEs in PPP projects that will respond to the South African economic challenges?	There is an appropriate model for sustainable SME development that can respond to the South African economic challenges	Chapter 5: Section 5.3.5 and 5.3.6	Chapter 6: Section 6.3.7	Confirmed

The study has answered all the main research sub-questions and proved or confirmed that all the propositions for each of the sub-questions are correct. Given that all the propositions are correct, the next step is to develop an innovative conceptual PPP model for the development of a sustainable SME sector taking into account the findings of the research study as presented in Chapter 5 and this chapter. The following section discusses summary findings of the research and possible solutions related to a specific finding.

6.5 Summary of challenges faced by SMEs in PPPs and possible solutions

This research has proven through the data presented in Chapter 5 of this study and in this chapter that the South African government can use PPP projects to contribute to the development of its SME sector. However, this can be done only if the current PPP model is adjusted to take into account the information and the findings on the above four main research sub-questions. Below is a summary of the findings on these research sub-questions:

- PPP project firms currently contract SMEs to provide services to PPP projects,
- Not enough preferential treatment are given to SMEs when PPP project firms award contract to a third party,
- SME participation is not a requirement for a PPP project and there is no policy that forces PPP firms to use SMEs in PPP projects, either during construction or the operational phases,
- Low share of contracts in Rand amount are allocated to SMEs compared to large firms,
- SMEs face challenges when providing services to PPP projects. These challenges include late delivery of services, poor quality of services, and failure to deliver services when needed by PPP firms,
- SME challenges are due to a lack of appropriate skills, right technology, access to finance, poor managerial skills and poor relationship with PPP firms,
- The most significant challenge for SMEs is poor management skills, followed by a lack of appropriate human resources and then a lack of access to finance,
- PPP firms had assisted SMEs with building human capacity, access to finance and the right technology,
- Improving participation of SMEs in PPP projects is difficult because SMEs lack technical and financial ability to effectively participate in PPP projects,
- PPP project risks are too big for SMEs, and therefore PPP firms are reluctant to use SMEs for these reasons.

The table in **Annexure E** gives a summary of the identified shortcomings with the current South African PPP model and the traditional PPP Model. It also gives possible solutions to the problems based on literature (see Annexure D) and research findings as presented in Chapter 5 and in this chapter. The last column of the table gives PPP-SME models that are relevant to addressing the identified challenges. These PPP-SME models are discussed in detail in Annexure D. To address the issues identified in this study, the proposed PPP model needs to incorporate these models into its structure and ensure that all the issues identified receive the necessary attention in the new PPP model for sustainable SMEs development to be proposed in the eighth chapter of this study.

In improving the effectiveness of the current PPP model, one can set up an independent centre or a centre within the existing government agencies responsible for SMEs or within the PPP Unit to provide all the services required to address the identified challenges as summarised in Annexure E. Given the challenges and the possible solutions as in Annexure E, the next step was to look at how these challenges could be incorporated into the traditional PPP model and the current South African PPP model to develop a PPP model for a sustainable SME sector.

6.6 Chapter summary

The research has identified lack of managerial skills for most SMEs as being the biggest problem that hinder effective participation of SMEs in PPP projects. To address this problem there is a need for a long-term strategy that will focus on skill development for SMEs. The process for developing the strategy should be driven by the public sector working together with PPP firms that use SME services. PPP firms are in a better position to recommend to the government the types of skills that SMEs need to be developed on.

Another challenge that PPP firms face when intending to use SMEs is the amount of risk involved with PPP projects that can be transferred to an SME. As PPP projects involve enormous amount of risks, PPP firms find it difficult to transfer these risks to an SME, given the fact that SMEs lack capacity to handle such risks. This also

hinders the effective use of SMEs in PPP projects. This problem necessitates that PPP projects, be disbanded into smaller projects that can be easily managed by SMEs. This will allow the risks to be spread amongst a number of SMEs, and each SME would be able to manage whatever risk is allocated to it, since the risks would have been reduced to a manageable level. For example, at the operational stage of a road project, a contract can be divided into grass cutting, toll collection, IT services, road line renewal, tax truck services, and so forth. This approach can reduce the amount of risk that each SMEs would carry, should these services be carried by different SMEs.

Development of a policy to force PPP firms to use SMEs is one of the important steps that needs immediate attention if the country was to improve the participation of SMEs in the PPP market. This should not only address SMEs issues at the operational stages of PPP projects only, but should apply at the construction or implementation stages of the projects as well. The use of SMEs in PPP projects should be mandatory and should not be left to the PPP firms to decide whether they involve SMEs or not.

CHAPTER 7: THE PROPOSED INNOVATIVE CONCEPTUAL PPP MODEL FOR DEVELOPING A SUSTAINABLE SME SECTOR

7.1 Introduction

Chapter 4 discussed the research methodology and also identified the appropriate model approach to be used to develop the model to be proposed in this study. The model approach was identified to be the conceptual model. Chapters 5 and 6 presented the research results and analysis on the current practices on the participation of SMEs in PPP projects in South Africa respectively based on the results of the study survey. The objective of this chapter is therefore to develop a conceptual PPP model based on the conceptual model approach that has the potential of informing the development of a sustainable SME sector that will create jobs for the poor, thus alleviating poverty and inequality. The development of such a model takes into account information collected during the literature review and the surveys conducted on SME participation in PPP projects, the results of which were presented in Chapter 5. Chapter 6 analysed the results presented in Chapter 5 and made findings and conclusions. It highlighted the difficulties and challenges that both SMEs and PPP firms face when working together in a PPP project. This chapter therefore seeks to propose an innovative conceptual PPP model for the development of SMEs that takes into account all the research findings of this study.

The objective of this chapter is to develop an innovative PPP model for the development of sustainable SMEs in South Africa, which could be adopted by other developing countries. The chapter is organised as follows: Section 7.2 briefly discusses the South African PPP model in practice. Section 7.3 briefly discusses the two South African PPP model approaches relevant for this study and how the research findings were used to develop the proposed model, while Section 7.4 focuses on building the conceptual innovative PPP model for SME development. Section 7.5 presents and discusses the proposed innovative PPP model. Section 7.6 discusses how the proposed model addresses the shortcomings of the traditional PPP model. Section 7.7 discusses the structure of the proposed model, Section 7.8 discusses model evaluation and validation, while Section 7.9 focuses on how the proposed innovative PPP model works or can be applied in practice. Section 7.10

discusses risks and benefits associated with implementing the model, while Section 7.11 discusses different ways in which PPP firms can be incentivised to contract more SMEs in their projects, and the last section concludes.

7.2 The two South African PPP model approaches

It is important to note that in practice, South Africa follows two PPP approaches. The first approach uses the private sector to design, finance, construct, operate and maintain the infrastructure project. The second approach, which is the *hybrid* of the traditional PPP approach, was followed by SANRAL when procuring the Gauteng road expansion project. Under the first approach, the role of government or the public sector agency is limited when it comes to implementing the PPP project in that most of the responsibilities, such as design, finance construct, operation and maintenance become the responsibilities of the private sector partner. This model was followed by SANRAL when procuring the N3 toll road, N4 toll road and the Bakwena toll road PPP projects.

The government's role in these PPP projects is to monitor the implementation and the operation of the project and also to monitor that the private party meets the performance indicators agreed upon. Under the second approach (*hybrid approach*), the government agency raises funds for the project through issuing government bonds or raise debt from financial markets. Under this approach the public sector partner has more liberty to appoint or influence the appointment of subcontractors to design, construct, operate and maintain the project. Under this approach the public sector carries all market and financial risks related to the project, which is not the case when the other approach is used to procure projects.

Both approaches have their own advantages and disadvantages. For example, when the first approach is used, government or its agency has limited control on how the project is implemented, as all responsibilities are transferred to the private sector party. The influence of government on how SMEs should be contracted to a project is limited compared to when the project is financed by the public-sector agency. This is because under this approach most of the risks are carried by the private sector partner. The concession between the private and the public-sector party locks the

government out of the project until the concession period has expired. In other words, the concession ring-fences the project from external influence until the project is delivered according to the specifications and performance standards agreed upon. The responsibility of government is limited to monitoring the implementation of the project, and its interest in this case is limited to having the project completed and delivering the service to the public as planned.

When the *hybrid* approach is used, the government agency retains more influence on how the project is to be implemented as it carries most of the risks, such as demand risks, given the fact that under this approach the public partner funds the project itself. It has control on who should be contracted to do what and it can also easily influence the participation of SMEs during both the construction and operational phases of the project. Under the first approach the government loses most of its influence and flexibility. The decision on which approach to follow seems to depend on what the government wants or intends to achieve with the project.

However, both approaches have failed to facilitate participation of SMEs in PPP projects. The reasons is that both approaches do not include developing SMEs as one of their requirements and there is no policy that incentives PPP firms to use SMEs in PPP projects, either during construction or at the operational phases of PPP projects. Therefore there is no preferential treatment given to SMEs when PPP project firms award contracts to a third party. Furthermore, both approaches do not have a mechanism or a programme in place that deals with different challenges to assist struggling SMEs with required skills and other assistance that they may need. The hybrid approach seem to be the appropriate approach to follow if the government wants to increase the participation of SMEs in PPP projects.

It is therefore important that the to be proposed model takes these two PPP approaches or practices followed in South Africa, as well as the inadequacies of these two approaches in facilitating participation of SMEs in PPP projects into account. The following section briefly discusses the relevant models to this study.

7.3 Revisiting the current PPP model and incorporating the survey results into the proposed model development

Most of the PPP models for SMEs identified in the literature are institutional PPPs as opposed to concessionaire PPPs (see Annexure D). Their main objective is to empower SMEs with soft skills that will help SMEs unblock all the challenges that they are faced with, as identified in Chapters 5 and 6. The objectives of these models are not to directly create opportunities for SMEs, but to create an environment within which SMEs could operate and to empower SMEs with the know-how to operate in these market environments. Most of the problems facing SMEs as identified through literature (see Section 3.3 of Chapter 3) and confirmed by the study survey findings (see Section 5.3.3.1 of Chapter 5) can be addressed by employing these types of PPP models. Below is a discussion on how this information and the information collected through the study survey had been used by the researcher to develop the proposed model as shown in Figure 7.1.

7.3.1 Shortcomings of the current South African and traditional PPP models

As discussed in Chapter 1, Section 1.10, both the traditional and the South African version of PPP models fail to incorporate SMEs as a permanent feature in their structure, and that makes it difficult to use PPPs to create employment through the use of SMEs in PPP projects. The following observations or issues are noted about both the traditional and the current South African PPP model:

- (i) Although the South African version of the PPP model does refer to SMEs, it does not force the PPP consortium or SPV to include SMEs in order to facilitate SMEs development;
- (ii) the traditional PPP model and the current South African PPP models also do not formally unbundle the activities, tasks or services required by PPP projects into smaller projects and that limits or hinders effective participation of SMEs in PPP projects;
- (iii) the SME requirement in the South African version of the traditional PPP model is one of many requirements that the PPP project needs to meet. This means that a service provider can still be awarded a project even if it does not meet either the PPA or SME requirements;

- (iv) the SME requirement is only for black owned South African SMEs, as it is based on the BEE policy. The objective of this requirement is not to develop the SME sector in general, but aims at developing a specific segment of the SME sector. The reason behind this approach may be that the government wants to address historical imbalances within the SME sector caused by past injustice. This approach can only work in South Africa or in countries that have similar challenges as South Africa. Even in South Africa it cannot be applied forever, as the apartheid legacy will disappear in the long-term and BBEE requirements may no longer be a condition for procurement of public projects. Such a requirement may render the model irrelevant in other jurisdictions and across different time periods;
- (v) the traditional model does not recognise that PPPs can be used by developing countries to foster the indigenisation process and contribute to sustainable economic development, for example, the black economic empowerment in the South African case. However, the South African PPP model does take this into account;
- (vi) the traditional PPP model does not take into account the challenges of developing countries, such as unemployment, poverty, and inequality, although the South African model does take into account the challenges of developing countries; however, it puts more emphasis on BEE compared to SMEs development and that limits what PPP projects can achieve for the country;
- (vii) Neither model addresses small business development challenges in relation to PPP projects. The institutional PPP models identified in the literature become relevant in addressing these challenges and need to be incorporated into the PPP model structure.

Below is a discussing on how the information collected through the study survey and through the review of related literature has helped the researcher to develop the conceptual model that will address the shortcomings of the traditional as well as the South African PPP models mentioned above.

7.3.2 Incorporating the survey results into the model development

The results of the study survey and the review of the related literature identified all the challenges that both SMEs and PPP firms face when working together in PPP projects. These challenges range from lack of soft skills by SMEs and failure by SMEs to participate in PPP projects, given the fact that PPP projects require high technological know-how and a strong balance sheet which SMEs do not have. It also found that PPP projects are too big for SMEs; however, SMEs can participate in PPP projects if PPP projects were to be unbundled to smaller but viable projects. As a result the researcher used the information collected through the survey to feed into the development of the conceptual PPP model. During the survey a number of activities or tasks that SMEs could provide to PPP projects were identified, as shown in Table 5.2 in Chapter 5.

Services that could be provided by SMEs during the construction phase were also identified through related literature and the study survey. Table 7.3 lists the different activities that are undertaken during both construction and operational phases of a PPP project. It also shows the type of firms that can execute these activities. It is worth noting that this list is not exhaustive. The disaggregation of the different activities (as shown in Table 7.3) required in a PPP project assisted the researcher to understand as to how a PPP project can be unbundled and which activities should be reserved for or allocated to SMEs and which ones should be executed by big firms or by the SPV itself.

The unbundling has the potential to provide a continuous market for SMEs goods and services in PPP projects and increase SME participation in PPPs, since SMEs can afford to finance these smaller activities that feed into the bigger PPP project. The unbundling also assisted the researcher to identify those activities that require high technological know-how and those that do not. Those services or activities that do not require high skills and expensive technologies are the first candidates for SMEs as shown in Table 7.3.

During the literature review the researcher also identified a number of SMEs-PPP models as discussed above. These models are summarised in Annexure D. **Annexure E** gives a summary of the different problems facing SMEs as identified through the study survey and literature review. It also shows which of the models in Annexure D could assist to address each of the identified SME challenges. All the challenges identified in Annexure E are incorporated into the proposed PPP model through the SME-PPP support mechanism shown as component C of the proposed model. All this information assisted the researcher to develop the proposed innovative conceptual PPP model for SME development as shown in Figure 7.1.

The following section therefore discusses how the innovative conceptual model for SME development is developed. The model development process takes into account the different issues listed above and those that were identified in the literature and the research survey results as discussed in Chapters 5 and 6. It also shows how the researcher has complied with the internationally recognised conceptual model-building criteria based on the discussion in Section 4.12 of Chapter 4.

7.4 Building the conceptual innovative PPP model for SME development

Table 7.1 below shows how a conceptual model is built. The table shows the different steps followed when building a conceptual model. The last column of Table 7.1 shows whether the development of the conceptual model adhered to the required steps for developing conceptual models as defined by (USAID, 2007 and Gross, 2003).

Table 7.1: Steps in building a conceptual model

Steps	Description of model development steps	Researcher compliance to model building criteria
Goal	Decide on the overall goal of your intervention. This goal should be visionary or long term and inspiring. Identify where knowledge is inadequate and further research is needed. Describe and illustrate key hypothesis about the target	The long-term goal is to develop an innovative PPP model for a sustainable SME sector that can be used by different government departments locally and internationally involved in PPP projects to encourage the participation of SMEs in such projects.

Steps	Description of model development steps	Researcher compliance to model building criteria
	outcome. This includes understanding the environment within which the model will be used.	
Target	Define the target you want to reach, (e.g. stakeholders), establish a common vision, the relevant spatial and temporal bounds, as well as the most important system component. Define purpose and intended use of the model.	The target stakeholders for this model are the different government departments and state-owned enterprises involved in PPP projects, as well as other developing countries facing socio-economic challenges similar to the ones faced by South African.
Threats	Collect all the information that is relevant for the model and list all the direct and indirect factors that you believe are threats to your targeted outcome. Arrange the threats in a way that shows how each threat relates to other threats that work against achieving your targeted outcome.	<p>Information to develop the model was collected through literature review and through a survey using a questionnaire (see Section 5.6.2 and 5.8.1)</p> <p>The biggest threats to the implementation of the model are:</p> <ul style="list-style-type: none"> • Reluctance of PPP firms to involve SMEs in PPP projects; • Reluctance by PPP firms to disbundle activities or services to be provided at both the construction and the operational phases of the projects into smaller projects that can be executed by SMEs; • Failure by SMEs to meet PPP firms' service requirements; and • Failure by government to support SMEs with skills and finances.
Interventions	List the current or planned interventions and arrange them adjacent to the threats they are meant to address.	<p>The following interventions are planned:</p> <ul style="list-style-type: none"> • Policy intervention will be used to make it mandatory for PPP firms to involve SMEs in PPP projects, • A PPP-SME support system will be put in place to assist struggling SMEs in meeting PPP firms' requirements and assist SMEs with other challenges such as lack of skills, • The PPP-SME support system will also help with the monitoring of the implementation of the policy that will force PPPs to use SMEs in PPP projects.

Steps	Description of model development steps	Researcher compliance to model building criteria
Develop models	Consider a wide range of processes relevant to the problem and discipline and also identify major system drivers that will be included into the model.	The model is developed based on the traditional PPP model and the South African PPP model. All the factors that are applicable to the two models mentioned above are also applicable to the proposed model. In addition to these factors, the proposed model also takes into account unemployment issues, the PPP-SME support system, and the disbanding of tasks during construction and the operational stage of PPP projects to smaller but viable projects to allow SME participation.
Use, review, revise, refine models	As all models represent an incomplete abstraction of reality, therefore most models will need to be revised to accommodate new observations, information or to meet changing goals.	The proposed model has the flexibility of being revised should there be new market developments. For example, the BBEE element may be removed from the model should it no longer be required in the long term and new factors can be added should there be a need to do so.

Source: USAID (2007), Gross (2003) and Author

According to Whetten (1989:490), by the time the conceptual model is developed the researcher should have at least systemically addressed six questions through the model, namely; what, why, how, who, where and when. Table 7.2 below shows how the researcher has answered these questions to comply with model-building criteria. The last column of Table 7.2 explains how each question was addressed during the process of developing the conceptual model.

Table 7.2: Compliance to model building criteria

Question	Description	Researcher compliance to model building criteria
What	Here two criteria are recommended to ensure that the right variables are included, namely comprehensiveness (are all relevant factors included?) and parsimony (i.e. should some factors be deleted because they add little value in explaining the model?)	(a) Section 3.3 of Chapter 3, Section 5.3.3.1 of Chapter 5 and Section 6.3.3.1 of Chapter 6 identified and discussed a number of factors that affect SME participation in PPP projects and also identified possible solutions to these factors or challenges. All the factors identified in these sections were considered in building the conceptual PPP model. Factors which were less significant in explaining the model were excluded from the model and only those that were

Question	Description	Researcher compliance to model building criteria
	<p>This step involves answering the question of what the underlying psychological, economic or social dynamics are that justify the selection of factors and the proposed causal relationships.</p>	<p>significant were included.</p> <p>(b) Factors were selected based on the problems identified in the different sections of Chapter 5 and 6. For example, the underlying economic dynamics that warranted the development of a PPP model that will support a sustainable development of the SME sector is the high rate of unemployment in the country. To allow SMEs to participate in PPP projects, services to be provided to PPPs need to be disaggregated to manageable sizes that SMEs can afford to deliver, hence the unbundling of services as shown in Figure 7.1. The use of SMEs to alleviate unemployment is due to the fact that SMEs grow employment at a faster rate than large firms (see Section 3.2 of Chapter 3 on the advantages of using SMEs instead of big firms to fight unemployment).</p>
How	<p>The question here is how the different elements of the model are related? Here arrows can be used to connect the boxes as a way of showing the relationships between different factors of the model.</p>	<p>As shown in Figure 7.1, arrows have been used to indicate the relationships between the PPP-SME support system and the different services that SMEs can provide to a PPP projects. The arrows also show how the different SME components make up the Experts implementation and application Subcontractors of the conceptual model and how this expert subcontractors link to the whole PPP model.</p>
Why	<p>The question to ask here is, what are the underlying psychological, economic, or social dynamics that justify the selection of factors and the proposed causal relationship? Why should colleagues give credence to your presentation of the phenomena?</p>	<p>In this case, the literature review on PPPs and SMEs, together with the information collected through the survey and analysed in Chapters 5 and 6 showed which factors needed to be included in the model development and why they should be included.</p>
Who, Where and When	<p>These conditions place limitations on the usefulness of the model. They set boundaries of the generalisability of the model. The key questions here are firstly, who will use the model? Secondly “will the model hold in other</p>	<p>The proposed conceptual PPP model for sustainable development of the SME sector can be applied during the implementation and application phases of PPP projects. Although the model is developed based on South African data collected through a survey of PPP firms operating in the country and government departments responsible for implementing PPP projects (see Section 4.5 and Section 4.6 of Chapter 4), the model can be applied</p>

Question	Description	Researcher compliance to model building criteria
	jurisdictions and across different time periods?"	by PPP practitioners in other developing countries who want to maximise the benefits that PPP projects can render to their citizen. The model is developed in such way that it holds across different time periods, provided it is adjusted based on the prevailing socio-economic conditions at that time.

Source: Whetten (1989) and Author

Having taken into account all the above steps necessary in building a conceptual model, the following section presents the proposed PPP model for sustainable development of the SME sector.

7.5 The proposed PPP model for SME development

As mentioned earlier, the different PPP models for SMEs discussed in Annexure D and the research findings in Chapters 4, 5 and 6 served as a foundation on which the proposed innovative PPP model is built. Below is a discussion on the different features of the proposed PPP model.

The traditional PPP model has five major role players; namely, the government, financiers, SPV, customers, and the experts. Opportunities for SMEs can only be found within the financiers, SPV, and the expert components of the traditional PPP model. However, the focus of this study is only on the experts' component of the PPP model, as the researcher believes that most opportunities for SMEs exist within the experts' component. The experts consist of three role players; namely; engineer designers, insurers, implementation or construction experts and the application or operations experts. The execution of the different tasks within the Experts component requires different sets of skills, given the fact that the activities involved in these phases are different.

The proposed PPP model as presented in Figure 7.1 is an extension of the PPP model presented in Figure 1.4 in Section 1.10. The model assumes all the elements of the traditional PPP model still hold; however, it proposes changes at the experts level of the model to facilitate increased participation of SMEs in PPP projects.

It proposes that at this level, the SPV should unbundle services to be provided to PPP projects into smaller separate but viable projects where possible. This means that SMEs will be contracted by the SPV, which is the main contractor for the project. This will allow opportunities to be spread to different SMEs that specialise in providing different services. However, the author is aware that at the implementation and or construction phase it may be difficult to unbundle a PPP project, for example unbundling the actual construction of a road project into smaller projects may not be economically viable due to the nature of a road PPP project and also due to both technical and financial resources required at the construction stage. This means that the actual construction of the project should be done by the main contractor or subcontract a big firm to execute it, while the smaller tasks, which are mainly the finishes (road markings, signs installation, water drainage, small bridges etc.) be done by different SMEs (see Table 7.3 below). In some PPP projects this is already the case. There are some tasks that are highly specialised, such as engineering design. Such tasks can be done by SMEs as long as the SMEs have the required skills, since such tasks do not require significant capital outlay.

The SPV can decide on the tasks to be executed by big firms and those to be executed by SMEs. The allocation of different tasks should be based on certain characteristics as discussed below. Table 7.3 lists the different activities or tasks that can be undertaken by different experts during the different phases of a PPP project. It is worth noting that the list of activities in Table 7.3 and 7.4 below is not exhaustive.

The unbundling of different activities of PPP projects as showed in Table 7.3 below should be based on factors such as complexity of the task, size of the task to be executed, capital requirement, required technical skills and other factors. Most activities that are candidates for SMEs are expected not to be too big, to require less capital outlay and technical expertise (some but not all), and to be less complex (some but not all). These factors were used to unbundle and allocate the different activities to either big firms or SMEs as shown in Tables 7.3 and 7.4. The projects listed in the table below cover all the sectors that formed part of the research

sample. It needs to be noted that the unbundling of the activities within each type of a PPP project is not exhaustive.

Table 7.3: Activities undertaken in a PPP project by firm type

PPP project	Activities at the implementation phase	Activities at the application phase
Road construction	<p>Activities to be provided by big firms</p> <p>Construction of the road itself or refurbishment/extending an existing road, Bridges etc.</p>	<p>Activities to be provided by big firms</p> <p>Major road maintenance Major bridge maintenance etc.</p>
	<p><u>Activities to be provided by SMEs</u></p> <p>Water drains Road markings Road signs installation Security services Construction of toll offices Installation of road gutters or rails etc.</p>	<p>Activities to be provided by SMEs</p> <p>Minor road maintenance Toll collection Security services Tow-truck services Road signs replacement Guard rail replacement Road markings etc.</p>
Office Block	<p>Activities to be provided by big firms</p> <p>Construction or refurbishment of an existing asset (building) IT system installation etc.</p>	<p>Activities to be provided by big firms</p> <p>Major building maintenance IT system maintenance etc.</p>
	<p><u>Activities to be provided by SMEs</u></p> <p>Furniture Security etc.</p>	<p><u>Activities to be provided by SMEs</u></p> <p>Garden services Security Catering Cleaning etc.</p>
Prisons	<p>Activities to be provided by big firms</p> <p>Construction or refurbishment of an existing asset (building) IT system installation</p>	<p><u>Activities to be provided by SMEs</u></p> <p>Garden services Security Catering Cleaning Laundry etc.</p>
	<p><u>Activities to be provided by SMEs</u></p> <p>Furniture Security etc.</p>	
Hospitals	<p>Activities to be provided by big firms</p> <p>Construction or refurbishment of an existing asset (building) IT system installation Medical equipment etc.</p>	<p>Activities to be provided by big firms</p> <p>Major building maintenance Medical equipment maintenance IT system maintenance etc.</p>
	<p><u>Activities to be provided by SMEs</u></p> <p>Furniture</p>	<p><u>Activities to be provided by SMEs</u></p> <p>Garden services</p>

PPP project	Activities at the implementation phase	Activities at the application phase
Water	Security etc.	Security Catering Cleaning Laundry etc.
	<p>Activities to be provided by big firms</p> <p>Construction or refurbishment of an existing asset (reservoir and pipelines installation) IT system installation etc.</p>	<p>Activities to be provided by big firms</p> <p>Major asset maintenance Billing of clients etc.</p> <p><u>Activities to be provided by SMEs</u></p> <p>Maintenance of pipeline system Meter replacement Meter readings etc.</p>
Conservation PPP projects	<p>Activities to be provided by big firms</p> <p>Construction or refurbishment of an existing asset (building, fencing) IT system installation etc.</p> <p><u>Activities to be provided by SMEs</u></p> <p>Furniture Security etc.</p>	<p>Activities to be provided by big firms</p> <p>Major building or fencing maintenance IT system maintenance etc.</p> <p><u>Activities to be provided by SMEs</u></p> <p>Horticulture Security Veterinary services Bed and Breakfast services Catering Cleaning etc.</p>

Source: Author

It is clear from the table that most of the activities done at both implementation/ construction and application/operational phases of most PPP projects are similar. Few of these tasks require a substantive amount of technical experience and financial capabilities. These tasks are the ones that really define the PPP project. Such tasks should be executed by big firms such as the PPP project firm itself or be contracted to a big subcontractor.

Table 7.3 above can be summarised and presented as Table 7.4. Table 7.4 shows how the different activities can be summarised into only implementation and application phases by firm type.

Table 7.4: Summary of activities for big firms and SMEs

	Activities at the implementation phase	Activities at the application phase
Activities to be allocated to big firms	<p><u>Big firms implementation experts</u></p> <ul style="list-style-type: none"> Engineering design of asset Construction of asset Construction of bridges Refurbishment of existing asset Major IT system installation Security (for prison PPPs) Medical equipment etc. 	<p><u>Big firms application experts</u></p> <ul style="list-style-type: none"> Major asset maintenance It system maintenance Major equipment maintenance and replacement etc.
Activities to be allocated to SMEs	<p><u>SME implementation experts</u></p> <ul style="list-style-type: none"> Consulting services Road markings Road signs installation Road rail installation Security services Construction of toll offices Furniture provision Plumbing services Electrification services Supply of construction materials etc. 	<p><u>SME application experts</u></p> <ul style="list-style-type: none"> Minor asset maintenance and replacement Toll collection/billing services Tow-truck services (road PPP) Road marking Guard rail replacement Road signs replacement Security Furnisher provision Catering Laundry Cleaning etc.

Source: Author

Tasks that should be executed by big firms include but not limited to construction activities of the asset, such as roads, water dams or reservoirs, the water distribution systems, refurbishment of an existing asset, installation of IT systems and installation of medical equipment depending on the nature of the project. These tasks or activities should remain the responsibility of the main contractor or be contracted to a big firm. The reason for allocating these tasks to big firms is because, if these tasks are not executed properly, the PPP firm would have failed to deliver the PPP project, as delivery of these activities really defines the PPP project. All other activities or tasks that are done at the implementation stage are done once these activities have been executed successfully.

Other activities such as water drains, road markings, installation of road signs, security services, construction of toll offices and installation of road gutters or rails and furniture installation should be provided by SMEs, as they do not need high skills and huge financial capabilities. Most of these services are also required at the application stage of many PPP projects. Even at this stage they should be provided by SMEs, as shown in Table 7.4 above.

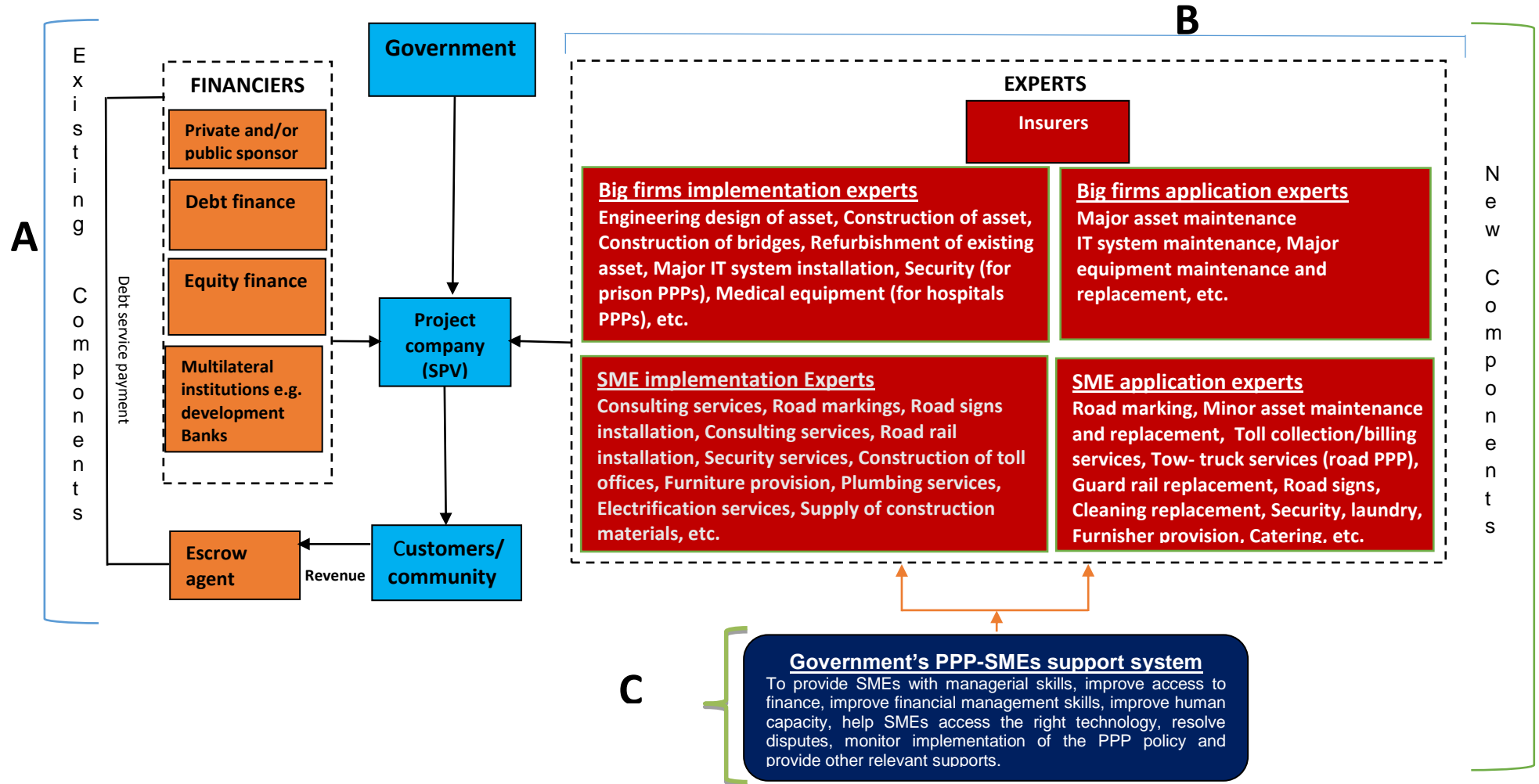
Below is the presentation of the proposed innovative conceptual PPP model for SME development. A prominent feature of the proposed model is the unbundling of PPP project activities/tasks and the inclusion of the PPP-SME support system as part of the permanent structure of the model. The PPP-SME support system is important because it directly addresses most of the challenges facing SMEs identified during literature review and analysis of the study survey results in Chapters 5 and 6. The PPP support system should be housed within the PPP Unit or the Department of Small Businesses or its agencies, such as SEDA.

The functions or responsibilities of the PPP-SME support system are to:

- provide SMEs with the required training, focusing on skills development;
- help SMEs gain easy access to finance based on the CIDB grading to mitigate default risks and other risks that may be involved;
- ensure SMEs comply with contract requirements based on predetermined compliance indicators and act as an arbitrator of disputes, monitor operational risks and give guidance on mitigation measures to be taken;
- collect and disseminate data on the PPP market and the participation of SMEs in PPP projects; and
- provide advice to SMEs in the different areas in which SMEs struggle.

Figure 7.1 below shows the proposed innovative conceptual PPP model for sustainable development of the SME sector and Annexure F(b) shows the South African version of the proposed PPP model.

Figure 7.1: An innovative conceptual PPP model for sustainable development of the SME sector based on the traditional PPP model



Source: Japan external trade organisation (JETRO) (2010:14), United Nations (2011) and Author

The proposed model is expected to be effective in improving the participation of SMEs in PPP projects in the country in that it has a monitoring function and a dispute resolution mechanism built in it. In an environment where small businesses are involved with big firms such as in PPP projects, disputes are likely to occur. Without a mechanism to deal with disputes, SMEs may always lose and suffer financial loss against PPP firms and that may affect the effective participation of SMEs in PPP projects in the long term.

The following section discusses how the different shortcomings of the traditional and South African PPP models have been addressed by the proposed innovative conceptual PPP model for sustainable development of the SMEs sector.

7.6 Addressing the shortcomings of the traditional PPP model

In order to enhance the participation of SMEs in PPP projects, the innovative conceptual PPP model proposed above have taken into account the shortcomings of the current PPP model in addressing participation of SMEs in PPP projects as discussed in Section 7.3.1 of this chapter and Chapters 5 and 6. Table 7.5 below shows how the shortcomings of the traditional and the current South African PPP models have been addressed by the proposed model. The first column of Table 7.5 lists the shortcomings of the traditional PPP model and the second column shows how the identified shortcomings have been addressed by the proposed innovative conceptual PPP model.

Table 7.5: Addressing the shortcomings of the traditional PPP model

Identified shortcomings of the current PPP model and problems identified through the research survey	How the identified shortcomings and challenges are addressed by the proposed model
Does not take advantage of infrastructure backlogs as an opportunity to develop SMEs through PPP projects.	Government is to be made aware through the model that infrastructure backlogs can be converted into employment opportunities through the use of SMEs in unbundled PPP projects.
The model bundles all tasks or activities at both the implementation and application	The proposed model unbundles activities or services at the implementation and application phases of PPP projects and classifies them as those that can be executed by SMEs and

Identified shortcomings of the current PPP model and problems identified through the research survey	How the identified shortcomings and challenges are addressed by the proposed model
phases of PPP projects, thus limiting SME participation in PPP projects.	those that can be delivered by big firms. All activities or tasks at both phases of all PPP projects are disaggregated into smaller but viable projects where possible, to allow ease of SMEs participation (see Table 7.4)
The model lacks a support system to help SMEs with skills development and other challenges	A PPP-SME support system is added as a permanent component of the PPP model
SMEs are not a permanent feature of the model.	SMEs are added at both implementation and application phases through the unbundling process and are now a permanent feature of the PPP model,
SME requirement is only for black-owned SMEs, as it is based on BBBEE requirement.	The proposed model proposes that all SMEs, regardless of who owns them, should be given equal opportunities to participate in PPP projects. It also advocates that all SMEs should comply with BBBEE requirements,
The model does not force PPP firms to use SMEs at both implementation and application phases of PPP projects.	The study proposes that the use of SMEs in PPP projects should be mandated through legislation and be made part of the request for quotation (RFQ) requirement.
SMEs lack technical and financial ability to effectively participate in PPP projects, PPP projects risk are too big for SMEs.	The proposed model unbundles PPP projects into smaller but viable projects to allow effective participation of SMEs. This will also reduce the amount of risks involved and the capital outlay required by SMEs to participate in PPP projects,
Low share of contracts in Rand amount are allocated to SMEs compared to large firms, and no preferential treatment for contracts given to SME by PPP firms.	The study proposes that a certain percentage of the PPP contract in Rand value should be set aside for SMEs and the unbundling of projects will allow more SMEs in PPP projects
SMEs face challenges when providing services to PPP projects. These challenges include late delivery of services, poor quality services, and failure to deliver services when needed by PPP firms.	The proposed PPP model incorporates a PPP-SMEs support mechanism meant to assist SMEs to deal with these challenges and provide the necessary training where possible. The department of Small Business or SEDA, has a responsibility to help SMEs with these challenges.
Lack of suitable SMEs to participate in PPP projects.	The unbundling of PPP projects as per the proposed PPP model will allow SMEs to focus on services of which they have experience delivering. The development of a database for SMEs participating in PPP projects will help PPP firms identify suitable SMEs to participate in PPP projects.

Source: Author

The proposed model has addressed all the concerns or challenges identified in the current traditional and the South African PPP models and those that were identified

during the study survey. The following section explains the different components of the proposed conceptual PPP model for SMEs development.

7.7 The structure of the innovative conceptual PPP model

This section discusses the different components of the proposed innovative conceptual PPP model for sustainable development of the SME sector. Based on Figure 7.1, there is one new component (Component C) that has been added to the existing typical PPP model, while one component, (Component B) has been reorganised in order to produce the proposed conceptual PPP model for SMEs development.

Component A: This part of the conceptual model represents the existing components of both the traditional PPP model (Figure 1.4) and the current South African PPP model (Annexure F (a)). The functions of the different factors in this component remain unchanged as discussed in Table 1.3 of Section 1.10 in Chapter 1, except that the construction expert subcontractors and the operations expert subcontractors are now referred to as implementation or construction experts and application or operations experts respectively. This makes it easy for the conceptual model to be applicable to all types of PPPs, not only on PPPs that involve construction and operation. Such PPPs include nature conservation and tourism PPPs. These types of PPPs do not involve construction activities such as roads and office blocks PPPs.

Component B: In a typical PPP model services provided during the implementation and the application phases are normally provided by expert implementers/contractors or application/operations subcontractors. These expert subcontractors are mainly big firms and few SMEs as indicated by the study findings presented in Chapters 5 and 6. The innovative conceptual PPP model proposes that services at the implementation and application phases of a PPP project be unbundled and be provided mainly by SMEs and few be provided by big firms, only if SMEs could not provide them due to lack of capacity and technical requirements. As shown in Table 7.4 above, some of the services needed at the application phase of a PPP project can be provided by SMEs.

At the implementation level of a PPP project, normally the main role players there are big construction companies. The new model proposes that even at this phase, services to be provided to the project should be provided by both big and SME firms. This can be made possible only if the required services at this stage of the project are unbundled, with those that can be executed by SMEs identified before the start of the project and be allocated to SMEs accordingly, as shown in component B of Figure 7.1. Component B shows how PPP projects can be unbundled to different activities and how those activities can be allocated between big and SME firms. This should be a legislated requirement for all PPP projects, otherwise it may be difficult to force PPP firms to comply with this requirement. The proposals should request all bidders to indicate the type of services and the percentage of the tender value that will be allocated to SMEs during both the implementation and the application phases of the project.

Component C: The research findings in Chapters 5 and 6 showed that SMEs struggle with different challenges when providing services to PPP firms and a recommendation was made that, for SMEs to participate effectively in PPP projects, there must be a support mechanism, the objective of which should be to help SMEs deal with their challenges. This component of the proposed PPP model is included to deal exactly with all SMEs' challenges as identified during the study survey. This support mechanism should be provided by the government, either within the Department of Small Businesses or within the PPP Unit of the National Treasury. The function of the PPP-SME support system is discussed in detail in Section 7.9 below.

Since the model has been developed and adhered to the criterion as presented in Table 7.2, the next step is to evaluate the model for its; completeness, consistence, coherent, un-ambiguity and correctness (Cherti, Akoka, & Comyn-Wattiau (2002:416), Assenova and Johannesson (1996:3) & Mehmood and Cherfi (2009:225)). The following section therefore discusses model validation and evaluation.

7.8 Model validation and evaluation

Model validation and evaluation aims at answering the question of whether the proposed conceptual model and its concepts make sense, not only to the researcher, but also to other scholars and practitioners (Jabareen, 2009:54). Once a model has been developed it needs to be validated for its usefulness for the tasks it has to perform. There are therefore several ways of validating a conceptual model or framework. The validation process normally starts with the researcher, who then seeks validation among outsiders, presenting an evolving model at a conference, a seminar, or some other types of academic frameworks which provide an opportunity for the researcher to discuss and receive feedback (Jabareen, 2009:54). This model was therefore presented at an international conference for public-private partnership (ICPPP) held in Austin, Texas in the United States of America from 26 to 29 May 2015 and was also presented at the School of Business Leadership of the University of South Africa where it was presented to both academics and practitioners in the PPP market. Inputs received from these presentations were incorporated to improve the model.

Table 7.6 below gives the model validation criteria as well as the compliance of the above proposed innovative PPP model to the criteria. The model validation criteria are based on academic frameworks as discussed above; however the conceptual model was further validated through conference presentation and discussions of the model with practitioners and academics. Feedbacks from these interactions were taken into account when finalising the model.

Table 7.6: Model validation

Model validation criteria	Researcher compliance to model validation criteria
<p>Completeness: A conceptual model should include all possible significant factors or elements that affect the phenomenon. It should ensure that all needs, constraints and policies are covered by one or more requirements.</p>	<p>It needs to be noted that the proposed model is an extension of an existing model. Therefore all the identified significant factors that make up the proposed model which are applicable in facilitating SMEs development or participation in PPP projects are included in the model.</p>

Model validation criteria	Researcher compliance to model validation criteria
<p>Consistency: Processes within the conceptual model should be consistent with one another and also be consistent with empirical data. Any model that is inconsistent with underlying empirical data or which cannot be reproduced must be either modified or rejected.</p>	<p>The factors that were added to the model, such as the PPP-SME support system and the different type of SMEs that can provide different services to a PPP project at both implementation and application stages are consistent with one another, as shown by the arrows on Figure 7.1 and 7.2. The model was also built from information obtained empirically from respondents through the study survey, face-to face supplementary interviews and data collected from relevant government departments or agencies. The model is thus consistent with the underlying empirical data. It can be used for different PPP projects with no or little adjustment.</p>
<p>Coherent: It should be organised in such a way that all elements of the model are logical.</p>	<p>As shown in Figure 7.1, all the elements of the model are arranged logically and they support the intended outcome, which is an innovative PPP model for a sustainable development of the SME sector.</p>
<p>Correctness: The model should be appropriate for the intended application and should have the potential to address the identified gaps.</p>	<p>As the objective of developing this model was to enhance the participation of SMEs in PPP projects, the unbundling of services or tasks at both the implementation and the application phases of PPP projects allows for ease of SME participation. The PPP-SME support system is also meant to address all problems that SMEs may face during the execution of the tasks contracted to deliver (see Figures 8.1 and 8.2). Given the fact that the model was constructed from empirical data obtained from a survey using a questionnaire and covering all types of PPP projects in the country, it is therefore generalisable.</p>
<p>Complexity: The model cannot be too complex to ensure ease of use and implementation in real world project environments.</p>	<p>The model is presented in a user-friendly, visually appealing, simple format. The model allows for ease of use and implementation in real world PPP project settings.</p>
<p>Transparency: The model should be transparent, making the conclusions of the model more understandable and in doingso, should increase its applicability to real world projects.</p>	<p>All the elements of the model have been explained in simple terms (see Section 7.8 below) and their relationships with one another are clear and understandable; that provides for ease of applicability in real-world PPP project settings.</p>
<p>Decision-making: A model should be oriented to support the process of decision-making. It should facilitate more effective decision-making within a project environment.</p>	<p>The model is supported by the practical PPPs and SME experiences collected from respondents involved in PPP projects. The collected information provided clarity on the various factors to be considered when SMEs provide services to PPP project firms. The results of the survey on which the proposed model is based also give respondents' suggestions on different activities that different role players have to play in order to improve the participation of SME in PPP projects (see Table 5.4) and that enhances the decision making process.</p>

Model validation criteria	Researcher compliance to model validation criteria
<p>Explainability: It must be easily explainable (model legitimisation) to ensure the general acceptability of the model.</p>	<p>The model was built based on an existing model which was already working, understandable and accepted in the industry. The improvements or the new elements added to the existing model are based on the survey results and are clear and easy to link with other elements of the model. Moreover, they talk or directly address the socio-economic dynamics that the proposed model seeks to address, which is the high unemployment rate. These features of the model make it easily explainable and acceptable.</p>

Source: Hass (2009); Valadares (1999); Remenyi, Williams, Money & Swart (1998); Schmenner (2009) and Author

Given the above model validation criteria or standards and the compliance of the proposed conceptual model to these standards, it can be concluded that the proposed conceptual PPP model for developing a sustainable SME sector is valid and can be used by different stakeholders to facilitate the participation of SMEs in PPP projects, thus reaping the full benefits that PPP projects can offer to citizens.

7.9 Working of the proposed model

The purpose of this section is to discuss in detail the functions or the working of the added or new components of the proposed model for a sustainable development of the SME sector as presented in Figure 7.1 and Figure F (b) in Annexure F.

Structure of the proposed model: The proposed model has kept the roles and responsibilities of the different role players in the traditional PPP model or in the current South African PPP model unchanged, except that the expert subcontractors and experts operator subcontractors are in this model referred to as implementation experts and application experts respectively. The existing components are shown as component A in Figure 7.1. The roles and responsibilities remain as discussed in Table 1.3 in Section 1.10 of Chapter 1.

In the proposed model, the SPV continues contracting with any service provider to construct the facility, as is the case currently with the traditional PPP model. However, such contracting is expected to take into account the BBEEE requirements in the case of South Africa. The new model proposes that, at the

experts component (component B), which covers engineering designers, implementation/contractors experts, insurers and application/operations experts, there must be an increased SME participation to do certain work. Instead of having one big firm constructing the whole project, for example, a certain percentage of work must be done by SMEs. This can be made possible only if services required at this phase are unbundled to smaller projects as shown by the four different blocks within component B.

Any tender for PPP projects should require that a certain percentage of the tender value be allocated to SMEs. PPP firms should then indicate in their bids as to how much and what type of work will be done by small firms. The list of different activities at the two different phases in component B shows which services are candidates for SMEs and which ones are candidates for big firms. The new model proposes that the services to be provided by the different experts be unbundled into smaller projects and be provided by SMEs, unless the task is so big in such a way that SMEs could not provide it due to lack of financial and technological capacity.

The understanding here is that, by disaggregating the different tasks into smaller but viable projects or activities that can be performed by SMEs, the country could maximise the opportunities that PPP projects present to its citizens. Services such as the maintenance of the building, catering, laundry, security and garden services can be provided by different SMEs, thus spreading the benefits arising from the project to a wider number of beneficiaries. The advantage with this approach is that SMEs would be guaranteed a market for the duration of the PPP contract, especially during the application phase, provided they meet the PPP firm's service standards.

Section 3.3.4 of Chapter 3 identified lack of access to markets for SMEs as one of the challenges that SMEs are faced with. Most PPP concessions last for 20 years or longer, and during this period many SMEs would have graduated from SMEs to big businesses if that was their objective while other SMEs may be satisfied to remain SMEs rather than developing to a big firm.

SMEs as a permanent feature of the model: To foster the development of the SME sector through PPPs, SMEs need to be part of the main PPP model. For example, instead of having big firms (implementation and application experts), the new model proposes unbundling¹⁸ of PPP projects at these phases to allow SME sub-contractors (see component B of Figure 7.1) to participate in providing the required services at these phases. The government, through a PPP policy or infrastructure procurement policy, should dictate that a certain percentage of all subcontracts at the different stages of PPP projects be awarded to SMEs. This may not cause a huge problem to PPP firms, as already some PPP firms are contracting SMEs to provide certain services during both the implementation and the application phases of PPP projects. However, this happens at a very small scale (see Figure 5.8 in Section 5.3.2.4 of Chapter 5). This approach could facilitate the process of black industrialisation.

The SPV should not be given the discretion of whether to contract an SME or not, as is the case with the current approach. Although the South African PPP model allows outsourcing of some services, as indicated by the survey results in Section 5.3.2.2 of Chapter 5, the companies providing most of these services are mainly big firms; SMEs only provide a small share of the services. Making SMEs part of the PPP model structure as shown in Figures 7.1 can go a long way in empowering SMEs and developing them into big firms in the long term.

Identify all services to be supplied by SMEs: In this model, PPP firms bidding for a PPP project would be required by law to list all services that PPP firms will outsource to SMEs. This means that any bid for a PPP project should list all the services that will be provided by SMEs at both implementation and application phases of the project. These services are listed under component B of Figure 7.1. The list of services to be provided by SMEs would need to be considered during the bids evaluation stage, and deserving bidders should be awarded points as per government policy in involving SMEs in PPP projects.

¹⁸ Unbundling means disaggregating the PPP project into small but viable projects that can be executed by SMEs without facing difficulties.

A support system for SMEs: Section 5.3.3.1 of Chapter 5 identified a number of challenges that SMEs face when supplying goods and services to PPP project firms. Possible solutions to these challenges are also discussed in Section 5.3.3.2 and Section 6.3.3.2. Most of the identified challenges are related to lack of soft skills in the SME sector, which are crucial for service delivery by SMEs. Most of the institutional PPP models discussed in Annexure D are meant to support SMEs with such skills. Annexure E has matched each SME challenge with the institutional PPP model that has the potential to address it. This model therefore embeds these institutional PPP models as a PPP-SME support system onto its physical structure to deal with all the challenges SMEs are faced with when supplying goods and services to PPP project firms. Such support mechanism can either be housed within the Department of Small Businesses or within the Small Business Development Agency (SEDA) or within the National Treasury PPP Unit. Its focus should be on providing support to SMEs subcontracted to PPP projects or to SMEs in general. Its funding may come from either the private firms involved in PPP projects or from the state or non-governmental organisations (NGOs).

Such an institution should be able to provide SMEs with all the services provided by the different institutional PPP models for SMEs as discussed in Annexure D and Annexure E. This SME-PPP support mechanism is meant to provide a one-stop-shop for all support needed by SMEs involved in PPP projects. It should be placed or positioned as shown in the proposed model (see PPP-SMEs support system at the bottom of the model in Figure 7.1). When PPP firms identify a gap in an SME providing a certain service to a PPP project, it can suggest a solution and refer the SME to the PPP-SME support system which would have the capacity and the know-how to address the identified problem or refer the SMEs to relevant specialists, for example, for technology-related issues the CSIR or the Technology Innovation Agency (TIA). For capacity related issues, SEDA is the right institution to deal with such issues.

Selection of SMEs to participate in the PPP project: One difficulty that may be faced by the SPV would be to identify the suitable SMEs for a PPP project. For example, what criteria should the SPV use to select or identify suitable SMEs to participate in a PPP project? To mitigate the risk of appointing poor performing SMEs, the PPP Unit or the PPP-SME support function housed within a government department as proposed in this study should:

- develop a database for all SMEs that had or have a contract with a PPP project. The database should contain information such as the type of services these SMEs provide to the project, the Rand value of the contract, financial records (balance sheet) of the different SMEs, type(s) of PPP projects they were involved with, and two or three references. This information should be made available to SPVs in order to evaluate SMEs that may qualify for a PPP contract,
- grade SMEs based on the type(s) of projects that they had undertaken in the past and their performance on delivering the required services. SMEs that had undertaken similar projects and performed well should be assigned a higher grade compared to those who undertook small projects and failed to deliver. The size of the project undertaken should be based on the Rand value of the contract successfully executed, and,
- black-list SMEs that have failed to deliver services as per their contract with PPP firms. This requires the SPVs to report poor performing SMEs to the PPP-SMEs support or to the PPP unit.

Availability of such information would make things easier for PPP firms to identify suitable SMEs to provide services to PPP projects.

7.10 Risks and benefits associated with unbundling PPP projects

Although the proposed model has the potential to address a number of issues that confront SMEs, however, it also has its own challenges. For example, unbundling of services into smaller tasks or projects and awarding different contracts to different SMEs may have both benefits and risks/challenges. The benefits associated with unbundling may include:

- (i) **Broad-based development of entrepreneurs:** Instead of awarding a PPP contract to one big established firm, unbundling encourages participation of more than one different SME in a PPP project. This helps develop a large number of entrepreneurs that may become serious competitors in future PPP project contracts and thus reduce the overall project cost of PPPs, which may decrease the cost of the service to be provided to the consumer through future PPP projects.

- (ii) **Distribution of income:** The results of unbundling may also result in an increased distribution of income to ordinary citizens that may be employed by the different SMEs. SMEs are believed to be more labour intensive compared to big firms and that promises well for increased employment and income distribution.

On the other hand the risks associated with unbundling may include:

- (i) **Increased administrative burden:** Administrative burden to the concessionaire or the PPP firm/SPV may be increased due to the increased number of role players in the project. This may also increase project complexity. It may be difficult and costly to manage a large number of service providers compared to when services are provided by one big firm that has the capabilities and know-how to deliver on the required project. This risk can be mitigated by avoiding over-disaggregation of PPP projects and by appointing SMEs that have experience in working in PPP subcontracts,

- (ii) **Increased project costs:** Involving many players in a PPP project may increase costs such as transaction costs and contract management costs. This may also cause project implementation delays, as the project SPV may have to negotiate and agree with many role players before implementation can take place. This risk can also be mitigated by appointing SMEs that have experience in PPP projects and that understand the requirements of the SPV with regards to service delivery standards,

- (iii) **Increased number of disputes:** The number of disputes between the different project role players may increase due to the increased number of project role players and given the fact that most contracts are incomplete. This may result in a costly contract re-negotiation process, thus increasing the overall project cost. This risk can be mitigated by using the PPP-SME support mechanism to deal with disputes between PPP project role players including SMEs.
- (iv) **Increased risk of project failure:** Using a large number of SMEs to deliver certain parts of a PPP project may increase the risk of project failure due to poor performing SMEs. The overall impact of unbundling could increase the project complexity. This risk can be mitigated by carefully selecting SMEs that will provide the service to the PPP project using the criteria listed in Section 7.9 above.
- (v) **Lack of human capacity within the public sector:** Lack of human capacity within government departments responsible for PPP projects may hinder the successful implementation of the proposed model and negatively affect the full benefits that PPP projects can offer to the public. The main challenge facing South Africa is poor policy implementation. Although the country has good policies, their implementation has been a challenge in the past few years. Capacity to coordinate between the public sector and private firms involved in PPP projects is paramount for the successful implementation of the proposed model.
- (vi) **Projects capture:** As discussed in Section 3.4, there is also a high risk of projects captured for patronage purposes as it was detected during the first and second phases of the EPWP. One may find that only SMEs that have a strong link with politicians get opportunities to participate in PPP projects.
- (vii) **Fronting:** There is a high possibility of big PPP firms fronting as SMEs in order to access opportunities in PPP projects that are reserved for SMEs. As discussed in Section 3.4, big PPP firms may create their own small

companies that will participate in PPP projects as SMEs and that may defeat the whole purpose of using SMEs in PPP projects to create jobs, reduce poverty and inequality.

These risks and challenges may differ from one project to another based on how the project is financed, as that determines the amount of influence the financier may have on the implementation of the project. The project can either be funded by the state or its agency or by the private sector partner. Irrespective of who funds it, there would still be risks and challenges associated with each funding mechanism. In a case where the responsibilities to design, finance, construct, operate and maintain remains with the private sector party (in the case of the traditional PPP model), unbundling of a PPP project may be difficult because the new risks introduced by the unbundling have to be carried by the private sector, as the private party takes the whole life responsibility of the project. The private sector may refuse or resist the idea of unbundling, unless it is guaranteed by the state that these new risks would be carried by the public sector partner. Such guarantee may eventually increase the overall project costs. However, as long as the increased costs due to the unbundling of the project do not increase the overall costs of the PPP project above the public sector comparator (PSC) figure, there is still a case to implement the project using the PPP approach. If the opposite happens, the case for unbundling the project becomes weak. However, if the request for proposals stipulates the unbundling requirements of the project upfront, bidders can incorporate any costs associated with unbundling the project in their bids. In a case where the PPP project is financed by the state or its agency (following the hybrid approach as discussed in Section 7.2), unbundling PPP projects may not be as difficult as when financed by the private sector partner because the state can agree to compensate the private sector partner for the new risks that unbundling introduces to the project or agree that any cost increase due to unbundling will be carried by the state. This can be easy because all the finances for the project under this approach would be managed by the public sector partner.

Such risks can be mitigated by writing a tight contract between the SPV and the different SMEs. However, writing a complete contract is impossible because it is

difficult if not impossible to anticipate or identify all risks or possible eventualities that may be faced by the project beforehand. As discussed in Chapter 2 the incompleteness of contracts is one of the challenges associated with PPP projects. Another way to mitigate for these risks is to make use of the PPP-SME support system, the objective of which is to play the role of a regulator as it is independent from the PPP firm and the SME. It can ensure contract compliance and act as an arbitrator of disputes, monitor operational risks on the part of the SME and give guidance on mitigation measures to be taken where necessary.

However, one can also argue that as long as the overall economic benefits of allowing SMEs to participate in PPP projects outweigh the overall administration costs to the concessionaire, there is an economic case for disaggregating or unbundling services as shown in the proposed model. It needs to be noted that even if the main contract was to be awarded to a BEE firm, the requirement for SMEs participation should still remain a condition of the contract.

7.11 Incentivising PPP firms to contract more SMEs

Forcing PPP firms to use SMEs in PPP projects may not be welcomed by most PPP project companies. PPP firms may try to find reasons not to contract SMEs. Given these potential reactions by PPP firms, there is a need to find ways to encourage PPP firms to contract more SMEs to provide services to their PPP projects. Some of the incentives may include the following:

- (i) Government should set a minimum percentage through a policy to be allocated to SMEs by any PPP firm that is awarded a PPP tender. Any PPP firm that does not indicate how SMEs are going to be involved in the PPP project should be disqualified or allocated less points during the tender evaluation process;
- (ii) Government departments should be forced by legislation to give preferential treatment to PPP firms that allocate more than the minimum required percentage to SMEs. Such PPP firms should be awarded extra points during bids evaluation process compared to those that strive just to meet the bare minimum;

- (iii) Government should develop a monitoring system that will monitor the implementation of the policy and the risk of fronting. PPP firms that fail to adhere to the policy should be penalised according to an agreed penalty clause in the concessionaire contract;
- (iv) To mitigate for the risk of PPP firms contracting SMEs that have a poor track record of delivering services to PPP firms, government will need to develop a database that will record all SMEs involved in PPP projects and the type(s) of services these SMEs are or have provided to these projects. SMEs that have failed to deliver services as per the contract between them and PPP firms will be black listed and will not be eligible for new contracts in future PPP projects;
- (v) Government can also use tax breaks to award PPP firms that contract or allocate a bigger percentage of the project value to SMEs and;
- (vi) The PPP-SMEs support system proposed in the innovative PPP model in Figure 7.1 should play the role of a regulator in cases where there are disputes and disagreements between a PPP firm and an SME company. This PPP-SMEs support system should also provide training to struggling SMEs as already alluded to earlier.

7.12 Implementation and evaluation of the success of the proposed model

Once a model has been developed, it needs to be implemented. Once implemented, it must be evaluated to determine whether it achieved its objective. Table 7.7 gives a summary of the different steps that one has to follow when implementing the proposed PPP model. The table shows clearly who is responsible for what in the process of implementing the model.

Table 7.7: Step-by-step implementation of the proposed PPP model

Step	Step-by-step activities	Description
1.	Government identifies a PPP projects	Through its internal processes, the relevant government department identifies a project to be implemented using the PPP approach.
2.	Government advertises for bids (RFP)	In the advert, it is made clear that bidders should show innovative ways as to how the participation of SMEs is to be increased in the PPP project. The expectation is that the bidder will indicate the type of activities that would be contracted to SMEs and those that would be contracted to big firms and also

Step	Step-by-step activities	Description
		show the Rand amount of the project(s) to be contracted to SMEs
	Government receives and evaluates bids	Once bids have been received, they are evaluated based on the bidders' proposed innovative approaches of involving SMEs in PPP projects and the percentage of the contract in Rands value that will be executed by SMEs. This should also take into account other factors such as technical and financial abilities.
5.	Government awards tender	The tender is awarded to the bidder that have proposed the best approach to involve SMEs in the PPP projects, taking into account the total project cost. There will be a need to balance the total cost of the project against the proposed innovative ways for involving SMEs in the project. If the bidder that proposed the best innovative way for SME participation is the most expensive one, the second best bidder should be considered, should it meet the other requirements such as technical and financial requirements. This means that SME participation should not be the only criteria for awarding a PPP tender to a PPP firm.
6.	SPV/PPP firm implements PPP project	During the implementation of the project the PPP-SME support system monitors the involvement of SMEs in the project against predetermined indicators between the SPV and the relevant government department. These indicators include the percentage of the contract awarded to SMEs and the type of activities that are executed by SMEs during the implementation phase
7.	SPV/PPP firm operates PPP project	During the application phase of the project the PPP-SME support system also monitors the involvement of SMEs against predetermined indicators agreed upon by the SPV and the relevant government department. These indicators include the type of activities or services that are executed by SMEs during this phase.
8.	Develop a database for SMEs participating in PPP projects	The PPP-SME support system develops a database on the performance of SMEs involved in PPP projects. The database should contain information such as projects executed by the SMEs, the Rand value of the projects, performance of the SMEs in delivering the expected service, weaknesses of the participating SMEs, etc. This should include the documentation of lessons learned.
9.	Develop a training programme for SMEs	After identifying the different challenges that SMEs face when participating in PPP projects, the PPP-SME support mechanism will develop a training programme that will respond to the identified challenges faced by SMEs in PPP projects

Source: Author

If implemented properly, the model must achieve its objectives. To determine whether or not it has achieved its objectives, it must be evaluated based on predetermined criteria or indicators. Below are the indicators to be used to evaluate the successful implementation of the model:

- (i) Conduct a benchmark study to create baseline data that will be used to compare the indicators below before and after the model had been

implemented. The information should be collected by either the PPP Unit, or the PPP-SME support mechanism or the Department of Small Business. The indicators are as follows:

- a. the number of SMEs currently providing services to PPP,
 - b. data on size of SMEs in terms of assets, number of employees etc.
 - c. type(s) of services currently provided by SMEs to PPP,
 - d. number of permanent and temporary employment during implementation and operation of PPP projects;
 - e. percentage share of the total contracts in Rand value that is allocated to SMEs
 - f. type of technologies used by SMEs,
 - g. number of PPP firms with a policy on involving SMEs,
 - h. number of SMEs that have received training from both the public and private sectors,
 - i. type of training provided to SMEs;
- (ii) The organisation responsible for the data collection should decide to collect this information annually or collect it after five years from date of implementation. Collecting data after five years would allow PPP firms enough time to implement the proposed model and adjust their business processes to accommodate the new model requirements. The advantage of collecting information every year is that the responsible institution can produce trends over time to see how effective or successful the model had been in increasing the participation of SMEs in PPP projects;
- (iii) Compare the baseline indicators over the years or with the results of the second study to see if there are changes in terms of SMEs participation in PPP projects.

It is worth noting that, without the baseline information, it would be difficult to evaluate the success implementation of the model and its impacts on improving the participation of SMEs in PPP projects.

7.13 Chapter summary

Introducing SMEs into a PPP projects may come with its own challenges. Involving many players in a PPP project may increase costs such as transaction costs. This may also cause project implementation delays, as the project SPV will have to negotiate and agree with many players before implementation of the project can take place. Such arrangements may also increase the number of disputes between the project role players. All these are likely challenges that may be experienced during implementation. However, involving SMEs in PPP projects may have benefits to the economy as a whole in terms of employment creation and poverty alleviating.

It is worth noting that, by applying the proposed model, it does not mean the country would completely eradicate the problems of unemployment, poverty and inequality, as that requires other government interventions such as proper policy implementation, skill development, continued political stability and fight against corruption within both the public and the private sectors, to name just a few. However, involving SMEs in PPP projects is one of the many interventions that the country needs.

CHAPTER 8: CONCLUSION AND RECOMMENDATIONS

8.1 Introduction

As discussed in Section 1.10 of Chapter 1, despite the positive role that SMEs play in an economy and the potential that PPP projects have in converting developing countries' infrastructure backlogs into socio-economic opportunities such as job creation and reducing inequality, there has been no or little attempt by developing countries to use PPP projects to develop their SME sectors. The problem is that the traditional PPP model has failed to convert the opportunities presented by infrastructure backlogs in developing countries into job creation, as this model mainly focuses on developing infrastructure assets and does not consider other challenges that may be imperative for developing countries, such as SMEs development and job creation.

The main objective of the study was to develop an innovative conceptual PPP model for sustainable SME development and to determine the potential role of PPPs in the South African economy. To achieve this objective the study has answered the main research question and its four sub-questions as stated in Section 1.12 of Chapter 1. The study has found that PPP projects have helped SME growth in the country through subcontracting SMEs to provide certain services to PPP firms. However, the rand value of services provided by SME to PPP projects is small compared to big firms. This is because PPP firms bundle most of the services into one big project. The study has also found that SMEs face problems when supplying services to PPP firms. These problems are late delivery of services, poor quality of services delivered, and failure to deliver services when required. The main cause of these challenges was found to be lack of skills in general and management skills in particular by SMEs employees.

With regards to encouraging the participation of SMEs in PPP projects, the study found that PPP projects should be unbundled into bigger and smaller projects, and allocate projects that do not need high technical skills, are less capital intensive and has low financial requirement needs to SMEs, while allocating the big components of

the project that require huge capital and high technical skills to big firms. In this way, SMEs will have opportunities to effectively participate in PPP projects and create the needed jobs. It has also been found that making SME participation in PPP projects a policy requirement would also enhance the participation of SMEs in PPP projects. The study has also concluded that an appropriate PPP model for sustainable SME development that will respond to the South African economic challenges can be developed taking into account all the research findings. This model was developed and presented in Section 7.5 of Chapter 7.

Based on the research findings briefly discussed above, this chapter presents the conclusions and recommendations of this research study. It also proposes a number of further research topics that need to be pursued in order to have a broad understanding of the role of PPP projects in the South African economy.

8.2 Conclusions

This section gives a summary of the key conclusions that can be drawn from the reviewed literature and study findings.

Although PPPs may be a solution to financially constrain government and to a government that has the finances but lack efficiencies in delivering infrastructure projects, involving the private sector in providing public service requires adequate capacity within governments and a comprehensive monitoring system with clear performance measures or indicators. Lack of proper monitoring of PPP projects may result in adverse impacts on the consumer and the country. This is normally lacking in most public sector PPP units or departments.

A successful implementation of a PPP programme is imperative for SME participation in PPP projects. Such programme is affected by certain statutory, regulatory and institutional factors. Government has a responsibility to establish the necessary legal framework, including competition policy, entry and exit laws in order to promote a prosperous PPP programme. The existence of an effective and efficient legal and regulatory environment, a well-functioning domestic debt market, low levels of corruption and unethical activities, transparency, easy access to information, well-

functioning political institutions, and stable economic and financial institutions are paramount to the successful implementation of PPP projects, thus contributing to the development of the SME sector.

SMEs face four main challenges, namely: lack of finances/financing, limited human resources, low technological capabilities, and lack of access to market. Linking SMEs to PPP projects may address some of these challenges to a certain extent, especially if SMEs are used by PPP firms to provide some of the services needed by PPPs, specifically at their operational stage, where PPP services are required for a long term. However, governments need to put in place mechanisms to address the challenges SMEs face if SMEs are to benefit from PPP projects and create the needed jobs for the unemployed.

Infrastructure backlogs present an opportunity for developing countries to develop their SME sectors through PPP projects. Many countries have not yet seen or identified infrastructure backlogs as presenting opportunities for the development of the SME sector. Infrastructure backlogs can be used by governments to address the triple challenges of unemployment, poverty and inequality by linking SMEs to PPP projects. In that way, PPPs would provide a sustainable market for SMEs' goods and services and facilitate the expansion of the SME sector, thus creating jobs for the poor and contributing to economic development.

Although PPP firms already subcontract SMEs at both the implementation and application phases of PPP projects, the share value of the project subcontracted to SMEs is small compared to big firms. At the application phase of PPP projects, PPP firms outsource a number of services with long-term contracts. Such services include, but are not limited to, maintenance of the asset, provision of security, catering services, laundry services, toll collection and IT services. The long-term nature of these contracts makes it possible to develop the SME sector through PPP projects.

There is no special treatment given to SMEs when SMEs bid for a tender. This is because most of PPP project requirements focus mainly on the technical and

financial abilities to deliver the project in time and at the lowest cost possible and on the transfer of risk to the private party. Therefore, in most cases, SMEs are contracted based on fitness for purpose. This automatically excludes most SMEs from the tender process due to their weak financial and technical abilities. This needs to change. PPP firms must be incentivised through legislation to contract SMEs to provide services to PPP projects.

SMEs face challenges when providing services to PPPs. The main challenges faced by SMEs in the PPP market is failure to deliver services on time, poor management skills, lack of technology and poor quality services delivered. The root cause of these problems is lack of human capacity within the SME sector as a whole, which may be due to lack of access to finance, which is due to lack of collateral and a good credit history, which is normally required by financial institutions to assess the creditability of any borrower before a loan can be granted to the borrower. Government needs to assist SMEs with access to finance and human capacity building.

The use of PPPs to develop the SME sector has never been the objective of government. The main reasons why the public sector followed the PPP approach to procure infrastructure projects was to obtain the much needed skills, such as the design and construction of big infrastructure projects which the public sector did not have at the time. Other reasons included securing private funding through private party lending and equity contribution, as the public sector did not have the required finances to build the needed infrastructure. Transfer of risk to the private sector, which is better able to manage it, also was an important reason to go the PPP route and to take advantage of the private sector efficiencies in delivering infrastructure projects.

An innovative conceptual PPP model for SME development was finally developed to facilitate the ease of SME participation in PPP projects. The model is innovative in that it recognises the potential of PPP projects to create jobs through SMEs. It is also innovative in that it unbundles PPP projects to allow different components of the project to be provided by different SMEs and big firms where necessary. It also has a

PPP-SME support system aimed at supporting SMEs struggling with different challenges in the PPP market.

8.3 Recommendations

This section gives recommendations based on the research findings of the different chapters of the study. It is believed that, if implemented, the use of SMEs by PPP firms would be enhanced and the fight against unemployment, poverty and inequality would be won to a certain extent. Linking SMEs to PPPs can increase the benefits of PPPs in society, as this may achieve two things at one go; namely: providing the needed infrastructure to the citizens and developing the SME sector. It can also improve the competitiveness and efficiency of the local SME sector, thus allowing SMEs to participate in international markets.

- **Develop a policy to foster the use of SMEs in PPP projects:** Government needs to introduce an incentive-based policy or a section in the existing policy that will make it mandatory for PPP firms to use SMEs during both the implementation and operational phases of PPP projects. The policy should clearly state the minimum requirement for SME participation in PPP projects;
- **Unbundle PPP projects into small but viable projects:** Given that PPP projects are big in nature and SMEs do not always have the technical and financial know-how to execute such projects, to accommodate SMEs in PPP projects, government should incentivise PPP firms to unbundle PPP projects into smaller but viable projects or components to allow ease of SMEs participation in PPPs;
- **Award PPP firms that go an extra mile in using SMEs:** PPP firms that surpass the minimum requirement on using SMEs should be awarded, while those that only strive to meet the bare minimum requirement should be penalised. The policy should also clearly define the role of government and that of the PPP firm in developing SMEs;

- **Develop managerial skills for SME staff:** SMEs face challenges when providing services to PPP projects, which are mainly due to lack of appropriate skills. Government and PPP firms should therefore empower or up-skill SMEs with the necessary skills. This service should be provided by the PPP-SMEs support system as shown in Figure 7.1 of Chapter 7.
- **Develop a database for SMEs with experience in PPP projects:** In order to encourage increased participation of SMEs in PPP projects, the PPP Unit needs to develop a database of all SMEs that have provided or are providing services to PPP projects, showing their delivery track record to help PPP firms identify suitable SMEs to be contracted to PPP projects.
- **Identify all services to be supplied by SMEs:** PPP firms bidding for a PPP project should be required by law to unbundle the PPP project into different components and list all services or components that PPP firms will outsource to SMEs. This means that any bid for a PPP project should show the type of services to be subcontracted to SMEs at both implementation and application phases of PPP projects;
- **Incentivise PPP firms to use SMEs in PPP projects:** Government should put mechanisms in place to give incentives to PPP companies who actively involve SMEs; such incentives can include tax breaks and other benefits.
- **Grade PPP firms:** PPP firms should be graded like the CIDB grading. PPP firms that consistently show innovative ways of developing SMEs and consistently exceed a set target should be given a higher grade compared to those that do not assist SME development. A higher grade should mean a better chance to be awarded a PPP project tender in future.
- **Have a clear policy direction on the use of PPP projects:** The state needs to have a clear policy direction and make consistent decisions or policy statements on the future use of PPPs to provide infrastructure in the country to improve regulatory certainty thus developing the PPP market.

- **Develop a monitoring mechanism to monitor policy implementation:** Once a policy has been developed, departments or government agencies responsible for the implementation of PPP projects should develop a monitoring system to monitor the implementation of the policy and any agreed performance indicators related to the use of SMEs in PPP projects.
- **Develop human capacity within the public sector:** In order to ensure that implementation of the proposed model is not hindered by lack of capacity within the public sector, it is suggested that capacity building within government departments working on PPP projects should be given priority, and lastly;
- **PPP unit to develop a database for PPP projects:** A proper PPP data management has THE potential to assist policy-makers in understanding the development of the PPP market and formulate relevant policies that would facilitate the development of the SME sector through PPPs.

The study findings show that there is a need for government to start seeing PPPs as a vehicle for creating jobs through the SME sector. However, this calls for a fundamental change of mind and to see infrastructure backlogs not as a problem, but as an opportunity to develop the SME sector through the use of PPP projects.

Supporting the SME sector of developing countries has the potential to stimulate economic growth, reduce unemployment, accelerate poverty reduction and improve living standards, thus contributing to government revenue through taxes. As Hussain *et al.* (2012:1584) assert, these taxes may strengthen the capacity of government to provide social services such as education, health, medical care and welfare for societal development. The availability of these services can further improve the well-being of a country's economy, further contributing to the development of SMEs.

The following section lists four research topics that need further research in order to improve understanding of the PPP market in the country, thus improving SMEs

opportunities to participate in PPP projects and create the needed jobs for the unemployed.

8.4 Recommendations for further research

- Research on the criteria to be used by the public sector when identifying a project as a PPP project is required. This is because this research has shown that it is not all infrastructure projects that should be procured using the PPP approach and the economic costs of procuring a project using the PPP approach when it is not required could be huge.
- Research on the importance of conducting a comprehensive public consultation process before the public sector decides to procure a project using the PPP approach is paramount, given the increasing public resistance against PPP projects in the country, which can limit the growth of the PPP market in the country, thus limiting opportunities for SMEs to participate in PPP projects.
- Research on the specific economic sectors that employ the PPP model to procure infrastructure is required in order to understand the different challenges facing SMEs in a particular sector. Research on the contract conditions of the concessionaire between the public and the private party is paramount. The study has found that some of these conditions limit the private parties' potential to increase the number of people they can employ to provide the service over time, even if the conditions or environment of the project have changed.
- Research on other possible SMEs opportunities within the financier, SPV and government components of the traditional PPP model. This research should identify the type of SMEs opportunities within these components of the PPP model structure.

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Annexure A: Cover letter

P O Box 1096
Halfway House
Midrand, 1685

02 February 2014

Dear Sir/Madam

Request to participate in a study by completing the attached questionnaire

The purpose of this letter is to introduce myself and the above-mentioned subject.

My name is Patrick Mabuza, a PhD student, currently undertaking a research project on the development of a PPP model for sustainable development of small and/or medium enterprises (SMEs) in South Africa. Your company has been randomly selected from a list of private companies and government departments or agencies involved in PPP projects in the country. I would therefore kindly request you to spend some 15–20 minutes of your time to complete the questionnaire to the best of your ability. The questionnaire is very easy to complete, as many of the questions have multi-choice responses.

The information that you may provide will remain confidential in the sense that you and your company will remain anonymous. When the study is completed, a seminal paper will be written where the results of the study will be contained. It is hoped that it will be of good use in your organisation in providing future direction in the area of planning and enhancing the participation of SMEs in your current and future PPP projects. If you are interested in the findings and recommendations, please provide your email address so that I can supply the paper when completed.

I will be grateful to receive your response as soon as possible, but not later than 30 June 2014. Should you have any queries or comments regarding this survey, you are welcome to contact me telephonically at 082 909 4627 or email me at patrickmabuza@hotmail.com.

Yours sincerely

Patrick Mabuza.

Annexure B: Questionnaire on the participation of small medium enterprises (SMEs) in public-private partnership (PPP) projects.

General instructions: Please read every statement or question and then **mark** the most appropriate response with an **X**.

SECTION A

This section refers to the respondents' general experience with PPP projects.

1. Provide your name _____

1.	Which of the following best identifies you within a PPP project setup?	
A	A PPP project company representative	
B	A public sector agency or department representative	
C	A PPP project financier representative	
D	A contractor to a PPP project	
E	Other (specify)	

2.	What is your position within your organisation?	
a	A PPP advisor	
b	PPP Operations Manager/Senior Manager/Supervisor	
c	Director/Managing Director/Executive Director	
d	Other (specify)	

3.	How many years of experience do you have in PPP projects?	
a	5 years and less	
b	6–10 years	
c	11–15 years	
d	More than 15 years	

4.	Which sector do you have experience working in PPPs?	
a	Public sector	
b	Private sector	
c	Both public and private sector	

5.	How many years of experience do you have in the sector?	Public sector	Private sector
a	0–3years		
b	3–5 years		
c	5–10 years		
d	More than 10 years		

6.	Which of the following PPP projects have you been involved with?	
a	Hospitals	
b	Roads/Transport/Rail	
c	Prisons	
d	Office accommodation	
e	Water and sanitation	
f	Power and energy	
g	Housing	
h	Tourism	
i	Other (specify)	

7.	What role did you play within the PPP project?	Project manager	Advisor to government	Technical advisor to a PPP project	General employee in a PPP	Other (specify)
a	Hospitals					
b	Roads/Transport/Rail					

c	Prisons					
d	Office accommodation					
e	Water and sanitation					
f	Power and energy					
g	Housing					
h	Tourism					
i	Other (specify)					

SECTION B

This section of the questionnaire explores whether small/medium enterprises (SMEs) play a role in PPP projects or not.

8.	Does your company have a policy on the use of SMEs in PPP projects?	
A	Yes	
B	No	

9.	Does your company outsource some of the services needed by the PPP project(s)?	
a	Yes	
b	No	
c	Not applicable	

If you answered **NO** to Question 9, please answer Questions 10 to 15 only. If you answered **YES** to Question 9, please skip Questions 10 to 15 and continue from Question 16.

10.	Do you think small and medium enterprises (SMEs) can play a role in PPP projects during their operational phase?	
a	Yes	
b	No	

11.	What role do you think can be played by SMEs in PPP projects during the operational phase? (you can tick more than one answer if they are all relevant)	
a	Maintenance of the asset	
b	Provide catering services, e.g. for hospitals and prison PPPs	
c	Provide laundry services, e.g. for hospitals and prison PPPs	
d	Provide security services	
e	Provide information technology (IT) services	
f	Provide tolls/tariff collection services	
g	Other (specify)	

12.	What do you think needs to be in place first in order to allow SMEs to provide services to PPP projects (tick more than one if applicable)	
a	Must have a clear government policy that forces PPPs to contract SMEs during the PPPs' operational phase	
b	Government must provide start-up capital to SMEs that want to provide services to PPP projects	
c	Government must provide SMEs with business skills relevant to services needed by PPP projects	
d	PPP companies must set aside a certain percentage of its services to be provided by SMEs during the operational phase of the project	

13.	Does your company intend outsourcing some of the services to small and medium enterprises (SMEs) in future?	
a	Yes	
b	No	

c	Not applicable	
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14.	If you are a public sector representative in a PPP project, what has been the challenge in fostering the use of SMEs in PPP projects	
a	PPP projects companies are reluctant to use SMEs	
b	Lack of suitable SMEs to provide the required services	
c	Other (specify)	

15. Can you give reasons why your company does not outsource some of the services to small enterprises?

16. In your opinion, what do you think government's role should be in order to ensure that SMEs participate in PPP projects?

17	Which of the following services are outsourced during the operational phase of the PPP projects? (If you worked in more than one PPP project indicate in the column the type of PPP that outsources the service.)							
		A	B	C	D	E	F	G
		Road and rail	Nature conservation	Water	Prison	Hospitals	Office accommodation	Other
a	Maintenance of the asset							
b	Catering							
c	Laundry							
d	Security							
e	Information technology (IT) services							
f	Tolls/tariff collection							
g	Other (specify)							

18.	Which types of enterprises provide these services to the PPP project?	
a	Big private enterprises/companies	
b	Small and medium enterprises (SMEs)	
c	Both big enterprises/companies and SME enterprises	
d	Foreign big enterprises/companies and foreign SMEs	
e	Other (specify)	

19.	What priority does your company give to considering the use of SMEs in PPP projects?	
A	Use preferred supplier database	
B	Award contracts based on fitness for purpose	
C	Include SMEs as part of the tender requirement	
D	Only engage SMEs for special skills	

20.	Does your approach to using SMEs vary depending on the geographical location of the project?	
a	Yes	
b	No	

21.	If answered Yes in Question 19 above, what are the geographical factors considered for awarding a tender to an SME?	
a	Understanding of local environment	
b	Availability of suitable local SME suppliers	
c	Proximity of SME to site	
d	Other, specify	
e	Not applicable	

22.	Do you have targets in percentage (%) for contracts to be awarded to SMEs?	
a	Yes	
b	No	

23.	If answered Yes in the above question, what is the target?	
a	0–20%	
b	21–40%	
c	41–60%	
d	61–80%	
e	81–100%	
f	Not applicable	

24.	What is the percentage share of Rands amount of the total services outsourced provided by SMEs and big companies?	SMEs	Big companies
a	0–20%		
b	21–40%		
c	41–60%		
d	61–80%		
e	81–100%		

25.	Give the number of employees employed by the SMEs contracted to your PPP project(s). (If your company is involved in more than one PPP projects please indicate likewise, i.e. PPP-1, PPP-2, etc.)				
		PPP-1	PPP-2	PPP-3	PPP-4
a	0–20				
b	21–40				
c	41–60				
d	61–100				
e	More than 100				

26.	How do you make SMEs aware of tendering opportunities with your company?	
A	Use preferred supplier database	
B	Direct contact	
C	On line registration portal	
D	Through bid adverts in the media	
E	Other (specify)	

27.	Have you introduced any SME to other PPP project opportunities or to wider PPP market opportunities?	
A	Yes	
B	No	

28.	Are there any tools that would assist your company to engage with SMEs for work with PPP projects?	
A	Yes	
B	No	

29.	If answered Yes in the above question, what are these tools?	
a	List of approved SMEs service providers	
b	Improving awareness of tendering through newspapers etc.	
c	Website development for supply chain	
d	Local area directory of suppliers	
e	Other (specify)	
f	Not applicable	

30.	Do you face any challenges with enterprises providing services to PPP projects?	
a	Yes	
B	No	

If your answer is **NO** to Question 30, please skip Questions 31 to 35 and start answering from Question 36.

31.	What type of challenges? (tick more than one if applicable)	
a	Failure to deliver the service when required	

b	Late delivery of the service	
c	Poor quality of service delivered	
d	Other (specify)	

32.	What do you think are the causes of these challenges? (tick more than one applicable)	
a	Lack of appropriate human resources	
b	Lack of appropriate technology	
c	Lack of finance to expand capacity	
d	Poor management skills	
e	Poor relationship with PPP project operators or contracting company	
f	Other (specify)	

33.	How would you rate the impact of the following factors on the PPP project(s) based on your experience? (6 = significant and 1 = less significant)	
a	Lack of appropriate human resources	
b	Lack of appropriate technology	
c	Lack of finance to expand capacity	
d	Poor management skills	
e	Poor relationship with PPP project operators	
f	Other (specify)	

34.	What do you think could be a solution(s) to these challenges?	
a	Provide these enterprises with training to improve the quality or skills of their human resources	
b	Acquire the right technology for the task to be rendered	
c	Improve their access to finance to expand operation	

d	Improve management skills	
e	Improve relationships with PPP operators/contracting company	
f	Other (specify)	

35.	What has your company done in order to help SMEs cope with the problems? (indicate if it has done more than one activity)	
a	Provided human capacity building	
b	Helped SMEs acquire the right technology	
c	Provided finance or helped SMEs to have easy access to finance from other sources	
d	Nothing	
e	Other (specify)	

36.	Is there any legislation that you are aware of that forces PPP projects to outsource some of the services they need to SMEs?	
a	Yes	
b	No	

37. If you answered **Yes** to Question 36, please specify the legislation.

SECTION C

Open-ended question:

This section explores your opinion regarding SMEs' participation in PPP projects.

38. Please give your opinion on how the participation of SMEs in PPP projects can be improved.

39. Who do you think should play a significant role in improving the participation of SMEs in PPP projects between government and the PPP company and why?

Thank you for your co-operation in completing this questionnaire. Kindly return the questionnaire as specified in the cover letter.

Annexure C: Complementary questionnaire: Participation of small and medium enterprises (SMEs) in public-private partnership (PPP) projects

If you are a public sector employee, please answer Section A only. If you are an SME employee, please answer only Section B.

Section A: Public-sector-related questions.

Questions

What was the main reason for the department to go the PPP route to procure the project?

Answer:

Was the participation of SMEs a requirement for the project?

Answer:

If yes, what were these requirements?

Answer:

What stage of the project were these requirements expected to be met by the PPP concessionaire? i.e. construction or operational stage,

Answer:

Had the PPP concessionaire been able to meet these requirements?

Answer:

If not, what were the reason(s) for not meeting them?

Answer:

As a department, what did you do to ensure that the requirements were met?

Answer:

Were there any penalties imposed on the PPP concessionaire for failing to meet the requirements?

Answer:

What were those penalties?

Answer:

Were they successfully imposed on the PPP concessionaire?

Answer:

What were the PPP concessionaire's views about the requirements and the penalties?

Answer:

What is the relationship between your department and Small Enterprise Development Agency (SEDA) when it comes to involving SMEs in PPP projects?

Answer:

In your opinion, how has the involvement of SMEs in PPP projects worked in the PPP projects you have been involved in as a department?

Answer:

What do you think is missing in the current PPP model if it was to be used as one of the tools to alleviate poverty and unemployment?

Answer:

What type of support is needed to facilitate SMEs participation in PPP projects?

Answer:

Who should provide this support?

Answer:

How should the support be provided?

Answer:

Do you have any idea on how the current South African PPP model could be improved in order to ensure that PPP projects also benefit SMEs and play a bigger role in alleviating poverty and unemployment?

Answer:

Do you have any documentation that you can share with me that stipulates clearly all the requirements that the PPP concessionaire had to meet or fulfil in order to be awarded the contract for the project, especially at the operational stage?

Answer:

Section B: SME-related questions.

Questions

To what type of PPP project is your SME providing services?

When the SME(s) started operating, how many people did it employ? _____

How many people are employed now? _____

How many are employed on a permanent base? _____

Name the type of services the SME is providing to the PPP project.

(a) _____

(b) _____

(c) _____

For how long is the contract with the PPP project? _____

What challenges do SMEs face when providing services to PPP firms (if any)?

What do you think needs to be done in order to enhance the participation of SMEs in PPP projects?

Annexure D: Different PPP models that involve the SME sector

The aim of this section is to discuss different SME-PPP models that exist in different countries. The objective is to identify models that can be adapted to address the challenges faced by SMEs in providing services to PPP firms. This process also takes into consideration the issues raised in Chapter 7 that comes from the research survey. The views that came out of the survey were analysed against the best practices identified in this section and presented in the Chapter 8 of this study. Below is a discussion on the different institutional PPP models as identified in the literature.

1. Institutional PPP models for SMEs

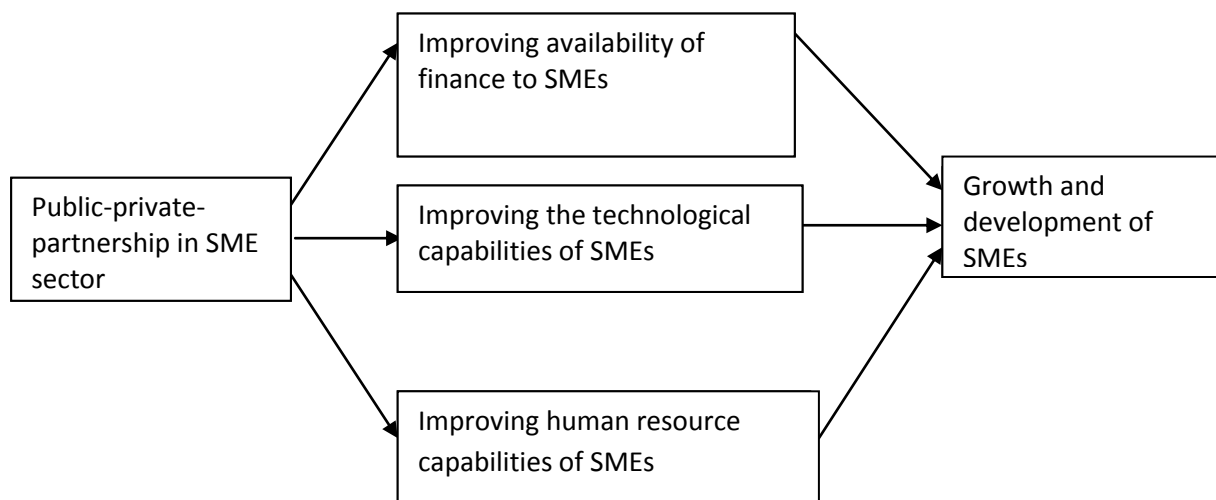
The review of literature showed that the most common PPP models for SMEs are programme or institutional type of PPPs. They are based on the formation of business research centres and industrial parks or other institutions to provide human, financial, and technical help to small enterprises. Such institutions are usually financed and operated by both the public and private sectors. Such arrangements do not provide SMEs with an opportunity to supply certain services to a PPP project; however they empower SMEs with the technical and analytical know-how of how to expand their operations and access markets for their goods and services (Klewitz and Hansen, 2012:10). In this case the institution that is formed is called a PPP, as it involves the public as well as the private sector partners.

An example of such collaboration in South Africa is the Anglo-Zimele Empowerment initiative Limited, which is the Anglo American Group's development fund. This fund operates as a catalyst to empower entrepreneurs in South Africa through the creation and transformation of SMEs, particularly in rural areas where Anglo American operates (SBP, 2009:7). Such arrangements can empower SMEs operating in the PPP market with the necessary skills needed in the PPP projects.

2. SMEs-PPP conceptual model

This model does not involve or include PPP projects as defined in the first chapter of this study. Here PPP refers to the private sector working together with a public sector entity to help SMEs. It is based on the premise that this relationship can help SMEs improve their access to finance, technological capabilities and human resources capabilities. These factors were identified in the literature review as posing a big challenge for SMEs. The Hussain *et al.*, model (2012:1586) (as shown in Figure 3.1 below) shows the relationship between the growth of PPPs and SMEs. The empirical testing of the model indeed showed that SMEs linked to institutional PPPs do benefit from improved access to finance, improvement in human capital and technological capabilities which are the main factors constraining the development of the SME sector in most countries. However, this model assumes that once SMEs have access to finance, technology and high skilled labour they will automatically become competitive and have access to markets for their products. This is not always the case, as access to market is another obstacle that hinders the development of small businesses as they are dependent on many factors that are sometimes outside the control of the SME itself or the country in which the SME operates. However, empowering SMEs with the right skills and technology could go a long way in helping SMEs compete effectively in local and international markets.

PPP-SME conceptual model



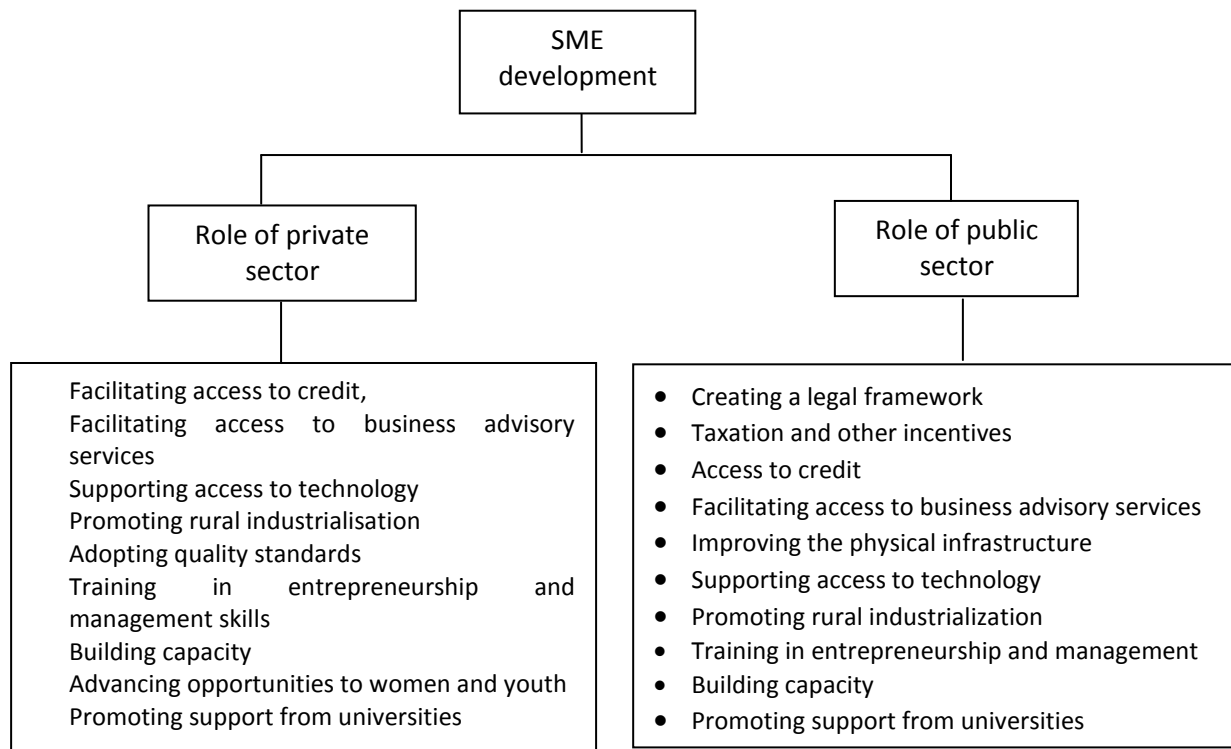
Source: Hussain *et al.* (2012)

The model shows how SMEs can be helped to grow if both the private and the public sectors work together to improve SMEs' access to finance, technological capabilities and human resources capabilities.

3. Public and private sector SME-development model

Another conceptual PPP model for SMEs development identified in the literature was developed and tested by Hussain, Hussain, Hussain & Si (2009:42) for its effectiveness of combining the public and private sectors efforts for SME-development programme. The figure below shows this model. The model shows that combined efforts between the public and the private sector can help develop a viable SME sector in a country, with the roles of the parties clearly defined, as shown in in the figure below. Some of the responsibilities can be executed by both the private and the public sector, for example, promoting rural industrialisation and facilitating business advisory services.

A conceptual model for public and private sector SME-development programmes



Source: Hussain *et al.* (2009:42)

An empirical analysis of this model found that both government and the private sector have a significant role to play in developing the SME sector of AJ & K Pakistan (Hussain *et al.*, 2009:44). A similar model is followed by the government of Mauritius. This programme or model is called a public-private dialogue – Mauritius Joint Economic Council (JEC). Its purpose is to build institutional expertise for the different industries represented in the Council (OECD, 2004:27). An empirical study by Silva and Rodrigues (2005:22), supported these type of models and found that programmes that combine both the public and private sectors have succeeded in promoting SME development.

4. Market-based PPPs to SME development

This type of PPP support to the development of SMEs focuses on creating a market environment conducive for SMEs development. Theory says any SME that is to provide a service to a particular entity should be contracted based on merit. However, in reality many SMEs that operate in the PPP market do not have the know-how needed by PPP firms, and as a result they struggle to deliver the services they are contracted to deliver. This may mean that, if SMEs were to be contracted based on merit only, there would be very few SMEs that qualify to provide services to PPPs. It is difficult to contract with SMEs in a PPP project because most of the available SMEs do not have the required skills. This reveals that there is a need to create an SME-friendly environment in the PPP market that will take into account that SMEs struggle in different ways.

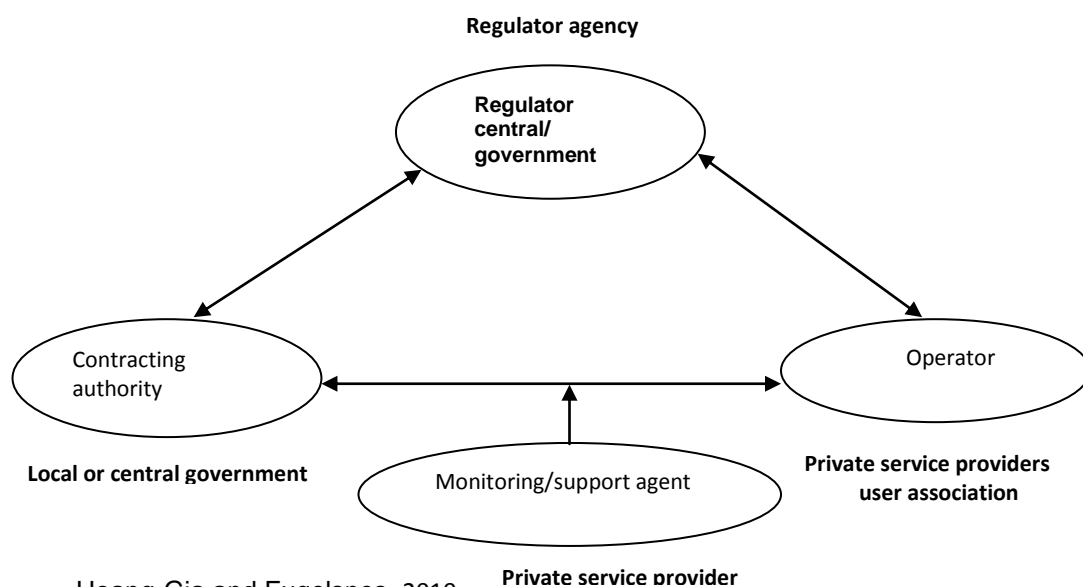
A good example of this approach is the State of Victoria's *Industry Participation Policy Act No.72 of (2003)* (Australia. State of Victoria. Department of State Development, Business and Innovation, 2003) which seeks to increase opportunities for participation by SMEs in major government procurement contracts, projects and infrastructure. The aim of this programme is to boost SME employment and business growth and to expose SMEs to technologies, new processes and best practices. This helps to ensure a sustainable increase in competitiveness for the participation of SMEs in large infrastructure projects (UNIDO, 2001:68). It is worth noting that this

type of PPPs may not be always effective especially when SMEs interests are under-represented in the partnership (Pacific Economic Cooperation Council, 2007:19).

5. PPP stakeholders' model

This type of a PPP involves the government, private sector service providers, consumers or users association, contracting authority and a monitoring or support agent. This is also an institutional PPP arrangement. Such partnerships can be formed by the different stakeholders. For example, the World Bank created a partnership as a response to a failure of *village management committees* which were responsible for providing water to rural areas of several African countries such as Benin, Burkina Faso, Mali, Mauritania, Niger and Rwanda. The failure of the committees resulted in unreliable water supply to communities. As a result of these failures, governments of these countries started to engage the private sector to operate small water schemes as an alternative to the community-based management model, hence the PPPs for small piped water schemes. The private sector party could be an NGO and not a private firm as is normally the case with PPP projects. Sometimes the partnership can be between local governments, water user associations and private operators (Hoang-Gia and Fugelsnes, 2010:7). This type of a PPP is presented in the figure below.

The PPP stakeholders' model



Source: Hoang-Gia and Fugelsnes, 2010

The regulator is independent from the contracting entity and the operator. It only ensures contract compliance and acts as an arbitrator of disputes, monitor operational risks and give guidance on mitigation measures to be taken. The monitoring or business support agent is responsible for data collection and analysis and providing advice and decision-making inputs. The responsibilities assigned to the different stakeholders vary from country to country (Hoang-Gia and Fugelsnes, 2010:7). Other PPPs similar to the PPP stakeholder model are the public-private partnerships in small-scale aquaculture and fisheries (WorldFish Center, 2010:3). Such a model can also be effective in improving the participation of SMEs in PPP projects in a country in that it has a monitoring function and a dispute resolution mechanism built into it. In an environment where small businesses are working together with big firms in PPP projects, disputes are likely to occur, and without a mechanism to deal with them, SMEs may always lose and suffer financial losses against PPP firms and that may affect the effective participation of SMEs in PPP projects.

6. A peer networking model for SMEs development

This model brings together a peer-group of SME owners. It creates an informal platform supported by a facilitator, in which SME owners meet on a regular base to share experiences, ideas and challenges, and to contribute constructively to the collective learning of the group. The objective is to build capacity among members, enabling them to establish business relationships with other SMEs and to develop the necessary knowledge and capacity to successfully enter the supply chain of large corporations. The peer group provides an environment where members can submit their difficulties, brainstorm solutions and gain access to information, including the identification of the main players in specific sectors and emerging opportunities that match the skills available within the group. This helps SMEs to build business confidence, grow local business relationships and transfer soft skills (SBP. 2009:5). In the case of SMEs contracted to PPP projects, such an arrangement could be helpful in that SME owners providing services to PPP projects can share experiences and help each other in cases where help is needed. They can

also discuss issues that affect SMEs in PPP projects with government and influence policy development for the SME sector as a whole.

7. Local content approach in supporting SMEs

Many countries at different economic development stages still use local content requirements despite their restrictions under World Trade Organization law (UNCTAD, 2013:5). Local content requirements have been found to be not delivering the expected results if not attached to sound economic policies. If used under a protected environment with few competitive pressures to invest in upgrading of capabilities, they result in inefficient SMEs that burden the economy with high costs, out-dated technologies or redundant skills, ultimately doing more harm than good. However, local content requirements can facilitate the development of supply capacity and strengthen local SMEs to compete on the international markets under the right conditions (UNCTAD, 2013:5).

The Zambian government introduced a range of local content quotas for SMEs with preferential treatment and certain minimum participation quotas in public tenders under the country's Citizen Economic Empowerment Act No. 9 of 2006 and the Statutory Instrument No. 36 of 2011 on preferential procurement as a way of strengthening the productive capacity of its domestic contractors (Government of Zambia, 2010). In South Africa such an approach was used during the country's renewable energy procurement process for independent power producers¹⁹ (IPPs). For example, one of the requirements was that bidders should ensure that at least 40% of the project company bidding to produce renewable energy should be owned by South Africans and that companies should also show their commitments to BBBEE (Republic of South Africa. Department of Energy, 2013:9). Although this approach does not enforce the participation of SMEs as it is more concerned with the use of local expertise and local intermediate inputs and empowerment of local people, SMEs also benefit as are also local companies some of which are owned by historical disadvantaged people. The same requirement can be introduced in the

¹⁹ IPPs are a form of PPPs

PPP market in general with the aim of strengthening domestic SMEs productive capacity in the PPP market.

8. A joint ownership PPP model

The joint ownership PPP model is a new approach in PPPs. In this model the government and the private sector team up to start a for profit company. The model operates like the traditional PPP model. The difference with the joint ownership model is that both the government and the private sector partner get a stake in the newly formed company. The public sector owner is the government agency or a ministry responsible for the provision of the service to the public. The private sector partner can be any company that has the skills to deliver the service. This type of PPP can offer straight-forward exit strategies not available in most other types of PPPs. The problem with the type of collaboration like the traditional PPP is that it can create a monopoly supplier of the service once a concession has been granted to the new company. It can also create conflict of interests as the government would normally push for lower prices, while as a stakeholder it should be pushing for maximising profits. Some of the risks and benefits associated with this model are similar to those of the traditional PPP model (Atalla, A and Hakim, n.d.). This model has the potential to assist in solving the current challenges faced by SMEs in the South African PPP market as discussed in the previous sections of this chapter.

Having discussed the different PPP models for SMEs, the following section discusses infrastructure needs for the African continent with the aim of showing that PPPs have a role to play in closing this infrastructure needs and thus opening opportunities for SMEs.

Annexure E: Summary of problems and possible solutions

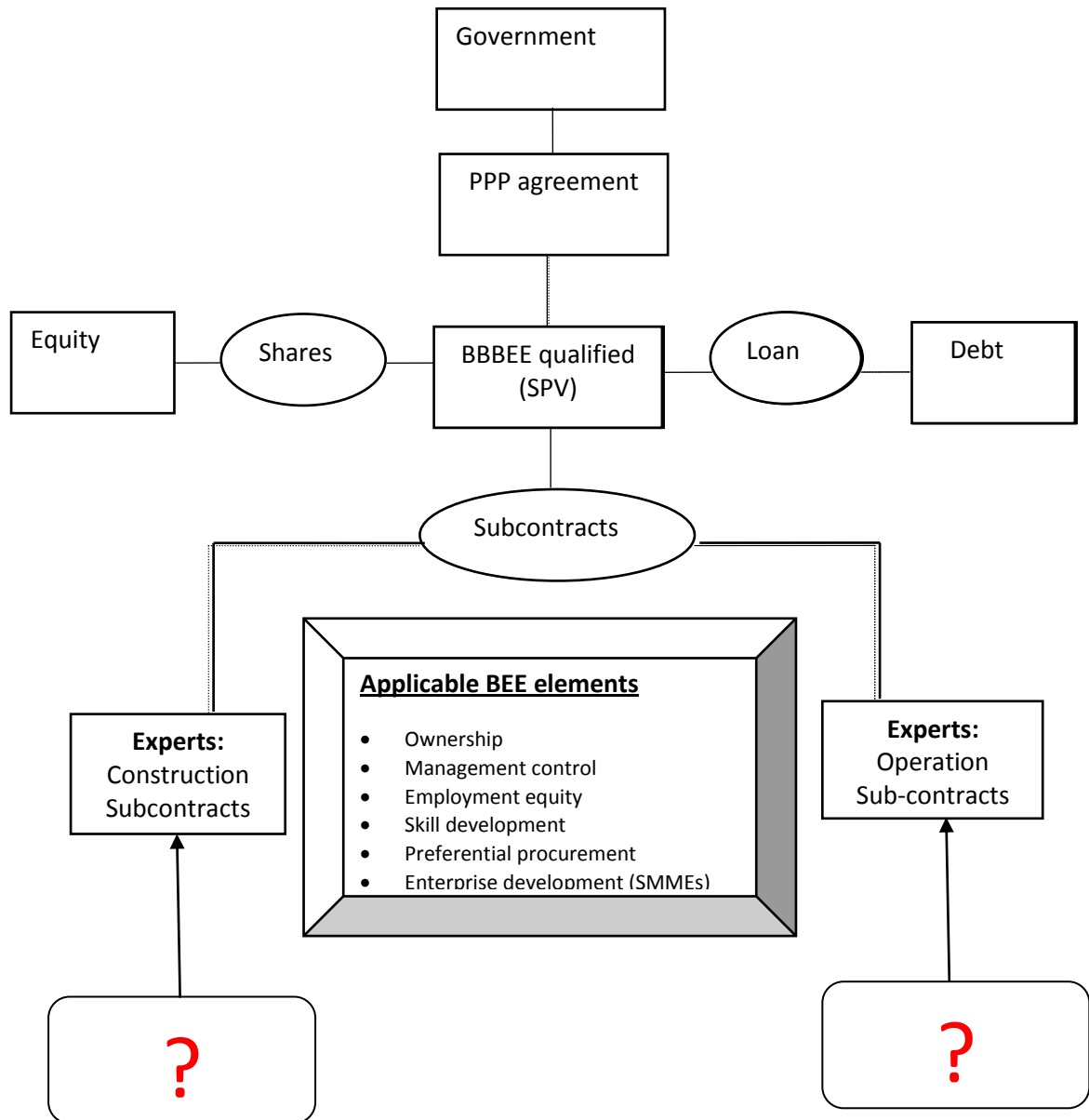
	Current problems in the PPP market	Sections where problems were identified	Possible solutions to the challenges/problems	Potential PPP-SME model to address challenges (see following sections in Annexure D)
1.	Not enough preferential treatment given to SMEs by PPP project firms when PPP project firms award contracts to a third party	Chapter 5 Section 5.3.2.3 and Chapter 6 Section 6.3.1.3	The government should make the requirement for the tender to be such that any PPP firm that tender for a PPP project should present a comprehensive plan on how it is going to involve SMEs in the project implementation and operational phases	Market-based PPPs to SME development (Section 4) OR Local content approach in supporting SMEs (Section 7)
2.	SMEs are only awarded small tenders (in size and in rand values)	Chapter 5 Section 5.3.2.4 and Chapter 6 Section 6.3.1.4	Government should amend its PPP policy or legislation to incentivise PPP firms to set aside a certain percentage or identify services that will be provided by SMEs during the operational phase of the project. This can be done by awarding more points to bids that demonstrate to do more to develop SMEs than what is required by the current transformation policies of government. In cases where SMEs lack the required expertise, big firms should be incentivised to partner with SMEs for big tenders	Local content approach in supporting SMEs (Section 7)
3.	Poor quality of service delivered by SMEs	Chapter 5 Section 5.3.3.1 and Chapter 6 Section 6.3.3.1	The PPP unit of the National Treasury should develop a database of SMEs, based on performance during the past five years, to assist concessionaires to select appropriate SME partners. PPP contracts should require the concessionaires to have a programme on skills transfer.	A peer networking model for SMEs' development (Section 5) Or PPP-stakeholders' model (Section 6)

4.	SMEs' failure to deliver services to PPP firms	Chapter 5 Section 5.3.3.1 and Chapter 6 Section 6.3.3.1	As failure to deliver services may be a result of a number of issues, such as lack of financial, human, and technological resources. The solution to this problem is to overall improve SMEs' human capacity development. This should be the responsibility of government complemented by PPP firms.	A peer networking model for SMEs' development (Section 6) OR PP-stakeholders' model (Section 6)
5.	SMEs lack management skills	Chapter 5 Section 5.3.3.2 and Chapter 6 Section 6.3.3.2	Government need to intervene to help SMEs acquire management skills in general and financial management skills in particular to ensure that problems are addressed as early as they emerge. Such skills can be provided by the state with the help of the PPP operator.	A Joint ownership PPP model, a Peer networking model for SMEs development (Section 8) OR PPP-stakeholders' model (see Section 5)
6.	SMEs lack of finance	Chapter 5 Section 5.3.3.2 and Chapter 6 Section 6.3.3.2	Improve access to finance by SMEs. Governments and PPP firms should assist SMEs to have access to finance. Or the two parties can form a joint ownership in the early stage of the project and then PPP firms transfer the ownership to SMEs at a later stage once SMEs have gained the required skills and cash flow from the project.	A joint ownership PPP model (Section 8)
7.	Lack of suitable SMEs for PPP services	Chapter 5 Section 5.3.3.5 and Chapter 6 Section 6.3.3.4	A database of SMEs that are involved in PPPs should be developed by government so that concessionaires may choose SMEs based on their track records of performance and experience. Where possible, SMEs can partner with big firms for a PPP tender that may be difficult for the SME to execute.	Market-based PPPs to SME development (Section 4)
8.	PPP firms are reluctant to use SMEs due to the amount of risks involved in PPPs	Chapter 5 Section 5.3.3.5 and Chapter 6 Section 6.3.3.4	Government should put mechanisms in place to give incentives to PPP companies that actively involve SMEs; such incentives can include tax breaks. More clear objectives need to be set on what and how much work to be outsourced to SME's and government to monitor compliance with these targets.	Market based PPPs to SME development (Section 4) or a Joint ownership PPP model (Section 8)

Source: Author

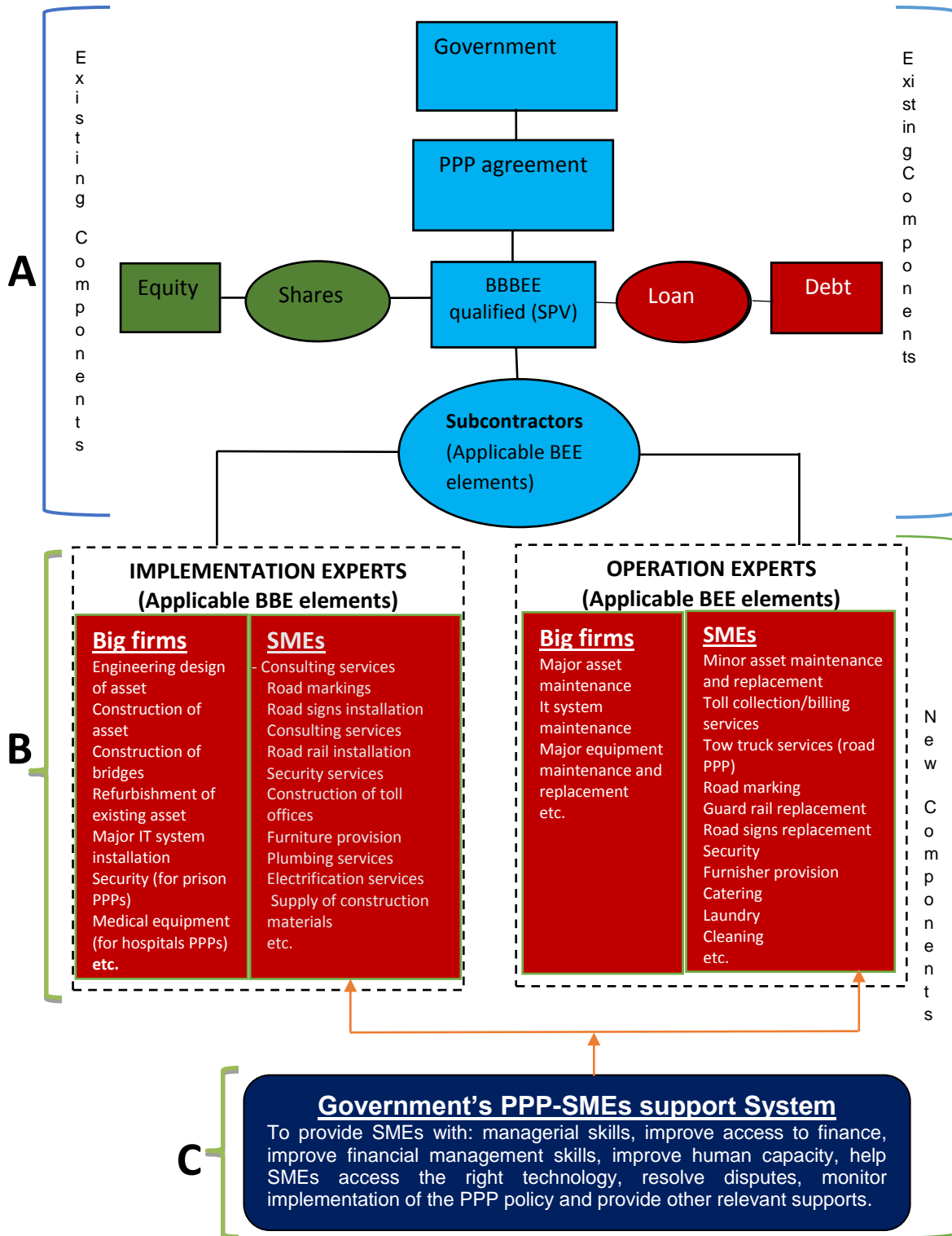
Annexure F: South African PPP model

Annexure F (a) Typical South African PPP model



Source: Republic of South Africa. National Treasury (2004a:29)

Annexure F (b): An innovative conceptual PPP model for sustainable development of an SME sector based on the current South African PPP model



Source: Republic of South Africa. National Treasury (2004a) and modified by the Author