UNIVERSITY OF WITWATERSRAND

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

THE SCHOOL OF CONSTRUCTION ECONOMICS AND MANAGEMENT

Johannesburg

MASTER OF SCIENCE IN BUILDING (PROPERTY DEVELOPMENT AND MANAGEMENT)

(BUQS8000A)

INTEGRATING LAND VALUE CAPTURE INTO INFRASTRUCTURE INVESTMENT PLANNING IN SOUTH AFRICA: CASE STUDY OF SOUTH AFRICAN LOCAL GOVERNMENT

Submitted by:

FARANANI GETHE

Student No.: 1828120

Supervisor: Dr Prisca Simbanegavi

NOVEMBER 2022

DECLARATION OF ORIGINALITY

Full names of student: Faranani Gethe

Student number: 1828120

I, Faranani Gethe, declare that this research report is my own unaided work and has not been submitted prior for any degree or examination in any institution. All work that has been used that is not my own has been referenced and acknowledged according to the department and university's requirements. It is submitted in partial fulfilment of the degree of MSc in the domain of Building: Property Development and Management at the University of the Witwatersrand, Johannesburg.

Signature of Candidate:

DEDICATION

My lifetime role model is the man who demonstrated real meaning of love to me for 28 years. You were the wisest high school dropout I have ever known. Without a formal job, you provided for us, and we never felt like we lacked anything. This MSc journey got tougher with the untimely passing of my dear father who succumbed to Covid-19 on 22 January 2021. To you, I dedicate this MSc as an act of appreciation for the firm foundation you sacrificed for me and my siblings. Thank you for everything and I know your legacy is being celebrated more in heaven. I will love you forever dad.

ACKNOWLEDGEMENTS

I would like to extend my greatest gratitude to the Department of Higher Education and Training South Africa that offered me a scholarship to study towards this MSc. Without their financial assistance, my studies would not have been possible. Secondly, I would like to express my deepest gratitude to the School of Construction Economics and Management at the University of Witwatersrand for giving me an opportunity to become one of the scholars that are being groomed towards academia through the Nurturing Emerging Scholars Programme (NESP). Your support is greatly appreciated in this journey. Thirdly, I would like to extend to deepest gratitude to my dear wife for her dearest support in this long journey. Lastly, I would like to further extend my greatest gratitude to my supervisor Dr Prisca Simbanegavi. You are such a great mentor, and your constant guidance was the primary pillar of this project's success.

LIST OF ABBREVIATIONS

CoJ: City of Johannesburg

CoT: City of Tshwane

GDP: Gross Domestic Product

IDMS: Infrastructure Delivery Management System

JDA: Johannesburg Development Agency

LVC: Land Value Capture

PPPs: Private-Public Partnerships

TIF: Tax Increment Financing

VM: Value Management

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXURES

ABSTRACT

South Africa continues to experience fiscal constraints and economic contraction as a major hindrance to deliver infrastructure projects. Because the process is disintegrated, the aim of this research is to recommend a set of guidelines using planning gain and investment theories on ways to guide the implementation of land value capture financing to fund infrastructure development by the South African local government. The study was conducted using the qualitative approach where a three-step sequential research design was followed. Firstly, the study utilised document analysis using secondary data where the aim was to investigate the problems and challenges that deter the effective use of Land Value Capture (LVC) in South Africa, as well as to investigate concrete proposals and legislative amendments that are required to circumvent the current limitations that exist and emerge from the application of LVC. Secondly, the study relied on semi-structured interviews to follow up on the findings of the first step. Finally, the study was conducted using the method of triangulation, using two data tools, to help draw guidelines on how LVC can be used in an effective manner in South Africa. The relevance of this study lies on the premise that there is a dire need for the South African government to expedite infrastructure development that were once curtailed by apartheid systems in order to anchor the imperatives of inclusive cities as the economy grows and urbanisation ensues.

KEYWORDS: Land Value Capture, cost recovery, infrastructure investments, government affordability, value creation, Public-Private-Partnership, infrastructure investment, local government.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

1.1. CONTEXTUAL BACKGROUND

The developing world continues to experience rapid population growth, and this has had a dire impact governments' ability to provide basic services for the average citizen (Tsoka, 2014). Adding to this, is the inevitable reality that is rural-urban migration which has increased exponentially in the past few decades. In fact, studies indicate that the number of people in urban areas in Africa is currently sitting at 472 million people; and that this number is expected to double in the next 25 years, averaging the urbanisation rate at 39%- with countries like Nigeria, the Democratic Republic of Congo, and Egypt contributing the most to the urbanisation rate (Blimpo & Cosgrove-Daves, 2019). With this growth, comes an urgent need for cities to develop quality infrastructure that will accommodate this anticipated growth. The problem, however, lays in the fact that the traditional funding mechanisms tend to fall short of this current demand for infrastructure projects which are in dire conditions in the typical African city.

As the global economy declines, South Africa revises its public expenditure as tax revenues are negatively impacted. The fiscal constraints are not unique to South Africa and according to Commonwealth of Australia (2016), these fiscal constraints restrict investments that are funded through government tax revenues. This results in a huge demand for the provision of infrastructure with only minimal traditional funding means that can meet this demand. The fiscal constraints are a major hindrance towards implementing many global infrastructure projects and the inflow of the rural population into already over-crowded urban areas is hampering local authorities to provide adequate infrastructure (Tsoka 2014).

This raises a pertinent question regarding government's affordability and capacity to fund infrastructure projects for the much-needed development. One potential funding mechanism is Land Value Capture (LVC). Land Value Capture (LVC) is about identifying value created by new infrastructure development, linking it to the accrued costs of development. This concept assists governments to deliver infrastructure projects through a more objective model. The proceeds of value created should be specifically utilised for infrastructure development. Better understanding of the relationship between projects and beneficiaries can improve land use planning policies and infrastructure investment by government (Commonwealth of Australia, 2016) and new infrastructure developments such as railway lines, hospitals, schools, and road networks create increased value to surrounding properties (Berrisford et al. 2018).

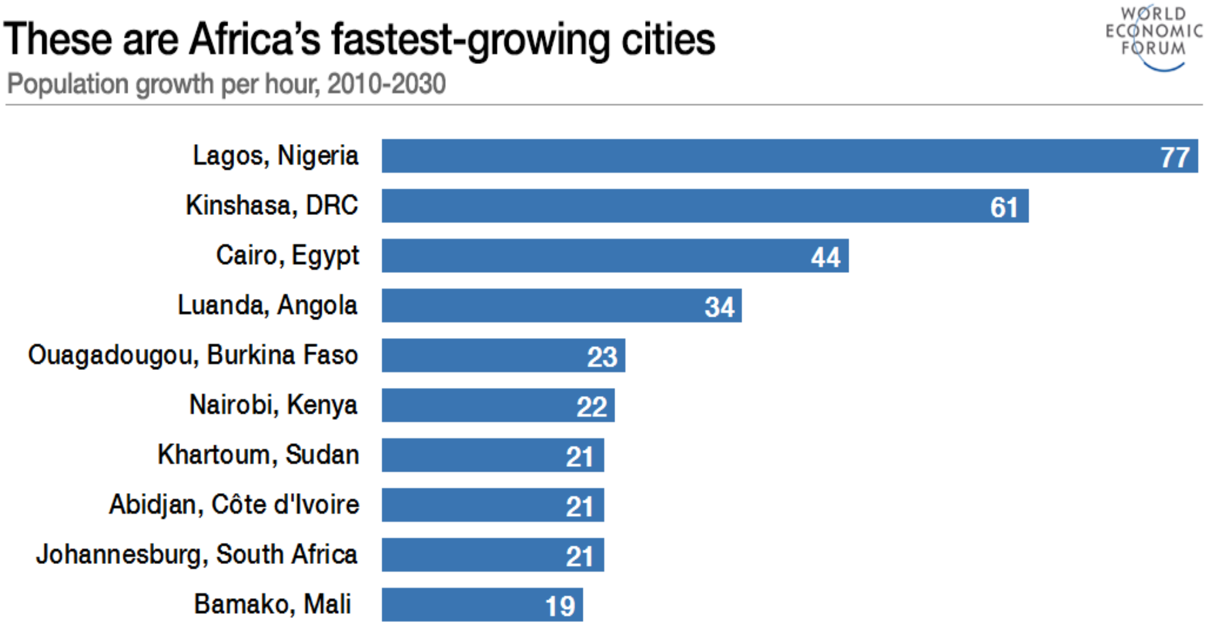

Figure 1 *illustrating the fastest growing cities in Africa. Source: UN World Urbanisation Prospects (2014).*

1.2. SUBSTANTIATION OF CONTEXTUAL PROBLEM

The South African Budget Review 2019/2020 confirms that the South African economy continues to contract with tax revenues declining by great margin. According to National Treasury (2019), the country's economy was projected to grow moderately from 1.5% in 2019 to 2.1% in 2021; however, the Covid-19 pandemic deterred this and, instead, resulted in the plummeting of the economy to -6.43% in 2020 (Statistics South Africa, 2020). These poor performances have resulted in tax revenue shortfalls of approximately R213.2 billion in the 2020/2021 financial year (National Treasury, 2021).

These challenges have resulted in government applying significant budget cuts on their expenditure sheet which has had a direct impact on public infrastructure funding. This, in turn, compromises the quality and sustainability of infrastructure (Groot et al., 2012).

As part of the 2019 budget priorities, government resolved to stimulate growth by strengthening public infrastructure investments; however, government remains under pressure to fund infrastructure projects that are the backbone for the country's overall development. In this case, LVC can be effectively used by local government to fund infrastructure projects given the budget constraints that are experienced by the South African government.

The desired growth of the economy will require extraordinary intervention by government and the investment from the private sector should be further encouraged to aid the improvement of infrastructure-projects implementation.

According to McGaffin et al. (2019), there has been insufficient infrastructure investment to address the developmental challenges exacerbated by the unjust planning laws of the past. One of the main contributors of insufficient provision of infrastructure by local government is the continuous decline in revenue sources and rising operational & expenditure costs (McGaffin et al. 2019, South African Cities Network 2016, 2015 & 2011). The empirical consequence of the problem is that municipalities are failing to address the much-needed infrastructure in previously prejudiced areas that experience rapid urbanisation and poor maintenance of existing infrastructure.

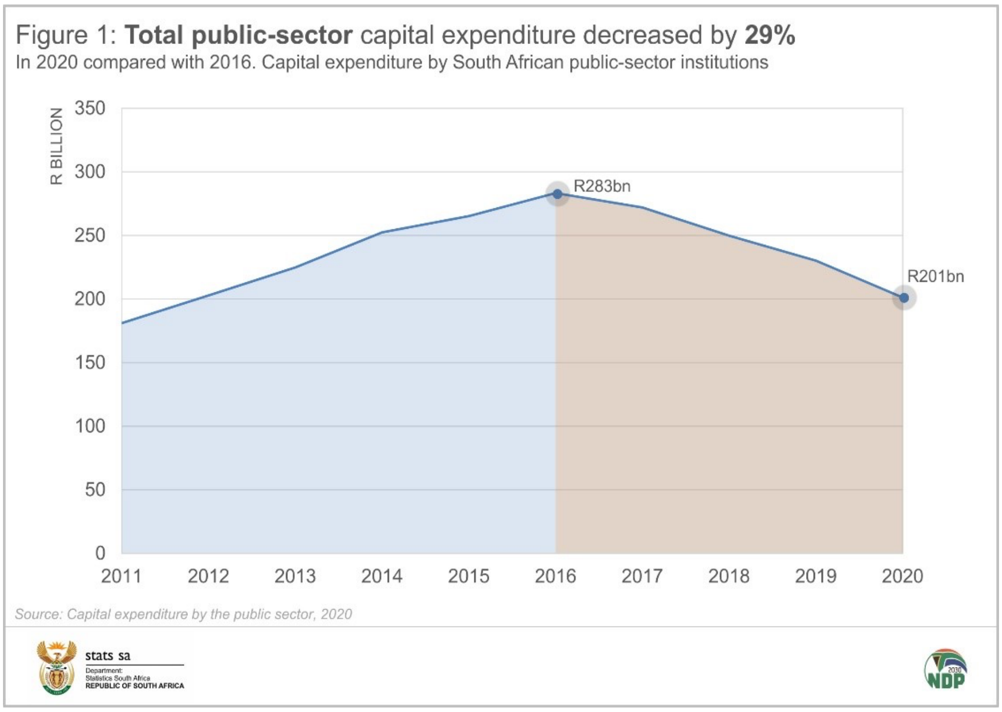

Figure 2 showing the capital expenditure decrease by the South African government from 2016-2020. Source: Statistics South Africa (2020).

Figure 2 indicates the capital expenditure by the South African government from 2011 to 2020. The capital expenditure by public-sector institutions increased gradually between 2011 and 2016. From 2016 to 2020, the expenditure persisitently decreased from 283 bilion rands to 201 bilions rand.

1.3. PROBLEM STATEMENT

Given the current significant budget cuts by government, economic declines and rapid urbanisation, funding for infrastructure such as roads, schools, clinics, libraries, railway lines, and recreation centres is compromised and, in some instances, it can be deemed non-existent in South Africa. McGaffin et al. (2019) concluded that the LVC concept is not suited to address the current infrastructure funding constraint given the practical limitations relating to concrete proposals and legislative amendments. This is paradoxical because LVC is the exact tool that developing countries need to boost their developmental capacity. Thus, the problem is that the current alternative funding mechanisms through LVC, a universal remedy to development is still disjointed and not well contextualised to fill the gap of funding infrastructure projects effectively for the challenges experienced in South Africa.

1.4. RESEARCH QUESTION

1.4.1. Research Question

The primary research question emanates from the need to address the problem of understanding and contextualising the use of alternative financing tools such as LVC which aim to relieve pressure from government. The primary research question is as follows:

- What are some of the guidelines that can make LVC effective as an alternative funding model for infrastructure development by South African Local Government?

1.4.2. Research Aim

This research study aims to recommend a set of guidelines using planning gain and investment theories on ways to guide the implementation of land value capture financing to fund infrastructure development by the South African local government. experienced by South African government.

1.5. RESEARCH OBJECTIVES

The study is anchored on the following three objectives:

Objective 1: To investigate the problems that deter effective use of LVC in South Africa.

Objective 2: To investigate concrete proposals and legislative amendments that are needed to circumvent the current limitations of applying LVC.

Objective 3: To draw guidelines on how LVC can be effectively used in South Africa.

1.6. LIMITATIONS

The limitations of this study are two-pronged.

Firstly, the study focuses on the City of Johannesburg (CoJ) and the City of Tshwane (CoT)- two metropolitan municipalities located in the Gauteng Province, South Africa. Although the use of case studies as a type of research design brings forth various advantages such as the stimulation of new research, case studies can bring limitations such as biases and a lack of variety that emerges from the data collected because the data only refers to the study areas chosen. Because of this, it can be quite difficult to deduce specific causes and effects of the broader research question that can be contextualised elsewhere. In other words, what was found in the study cannot be used as a “one size fits all.”

Secondly, was the limitation of time constraints where the study’s deadline generally compromises the quality of the data that can be collected. The assumption that more time is given brings forth the theory that more can be done and vice versa. The pressure to meet the deadline for this study thus resulted in having to collect data that could be found within that timeframe, and what could not be found, which might have added substance to this research, was thus neglected.

1.7. PROPOSITIONS

The following assumptions have been made in this study:

i. The South African government does not consider their infrastructure projects as an investment.
ii. Infrastructure development in South African occurs at a slower rate than what it should.
iii. The processes of how to promote infrastructure developments using LVC as a tool are vague.
iv. The challenges of LVC in South Africa are local government centred.

CHAPTER 2: LITERATURE REVIEW

2.1. INTRODUCTION

The purpose of the literature review is to unpack existing literature surrounding the theme that is LVC and identifying the gaps that exist regarding the theme. Pati et al. (2017) defines a literature review as the systematic process of collecting, evaluating, integrating, and presenting findings that exist in the world of academia in relation to the research problem posed.

This literature review will focus on LVC and other related theories as an attempt to understand what previous studies are pronouncing on LVC and how that can assist in placing the current research problem in light. The research question emanates from the need to understand and contextualise the use of financing tools such as LVC that relieve pressure from government. This literature review will draw its focus on the status of LVC and legislation in South Africa.

2.2. METHODOLOGY OF LITERATURE REVIEW

The literature was sourced predominantly from online academic sources, coupled with gazetted policies and legislation published by the South African government. The choice of literature was based on the rationale and relevance of the research problem, aim, and objectives.

2.3. INFRASTRUCTURE INVESTMENT

2.3.1. Contributor to Economic Growth

Globally, infrastructure development is known as a key factor for economic growth and because of this, it is a tool to alleviate poverty, unemployment, and other socio-economic injustices that pester society (McGaffin et al. 2019). Furthermore, infrastructure development serves a critical role in nation building and economic stability, development, and sustainability (Scientific Council for Government Policy, 2008).

McGaffin et al. (2019) further state that, traditionally, governments have been the primary provider of infrastructure around the world- and even though there has been lot of public-private partnerships (PPPs) around the world, governments remain the primary provider of infrastructure development.

Van der Waldt (2018) concedes to the idea that infrastructure development plays a critical role in economic development, and that rapid urbanisation of sub-Saharan African cities places pressure on cities to provide sufficient infrastructure & services to its populations. Vukeya (2015) expands this notion further, stating that for emerging economies to experience significant economic growth, infrastructure investment equivalent to 25% of gross domestic product (GDP) is required; but with South Africa having so many socio-economic challenges carried over from the colonial and apartheid eras, it is almost impossible to have infrastructure investment equivalent to 25% of GDP. It is, therefore, imperative to explore other avenues in South Africa that will be able to fund infrastructure investment equivalent to the said 25% in order to meet the socio-economic goals that will curb the soaring unemployment and poverty levels.

2.3.2. The Traditional Method(s) of funding Infrastructure Investment

In an attempt to forge economic growth, the South African government has, in recent years, set up various economic and social infrastructure investment programmes (Vukeya, 2015), however there has been a persistent decline in the economic growth which is evidence that a lot needs to be rectified.

Literature reveals that the root of the challenges of the programmes that exist lies mainly in the funding model, hence the low produce of infrastructure in South Africa. Gong et al. (2021) emphasizes that conventional revenue resources seem inadequate to respond to the increasing need to provide infrastructure around different economies, and these findings reinforce the importance of having alternative funding models such as LVC to relieve pressure off the already burdened traditional method.

2.3.3. Status of South African Infrastructure Investment

According to the South African Cities Network (2016, 2015, 2011), the sphere of government largely responsible for social & economic infrastructure development is local government. Local government is funded from revenue collection, and national government transfers based on the Division of Revenue Act. The ability of national government to fund local government through national transfer is constrained by the decline in economic growth and government's reduced tax revenue collection (McGaffin et.al. 2019 and Vukeya, 2015). The funding constraints places pressure on municipalities to do trade-off between infrastructure investment for economic development & re-dressing historical imbalances (McGaffin et al. 2019). Amid all these challenges, South Africa continues to battle with aging infrastructure and insufficient infrastructure development, which perpetuates the challenge of infrastructure investment.

2.3.4. Understanding LVC

2.3.4.1. Planning Gain Theory

LVC is a concept developed from the theory of 'planning gain' where private developers cannot recoup sufficient returns on their investment unless developers upgrade public roads and water supplies to service surrounding areas as well as their own development (Higgins, 2019). Simbanegavi (2019) acknowledges this notion, that planning gain theory assumes that there is an increase in land value resulting from land rights granted for that land accruing to the landowner. A levy or tax may be applied to divert some of the planning gain for redeveloping the area. Higgins (2019) found uplift in value for properties due to transport infrastructure upgrading in the United Kingdom. This concept is similar to 'Tax Increment Financing' (TIF) by which approved development companies use the concept of 'value capture' to redevelop deteriorated neighbourhoods (Squires and Hutchison, 2014).

According to Allan Schmid (1970) the land market value in the United States of America doubled between 1956 and 1966, where the total value moved from 269 billion US dollars to 523 billion US dollars over this 10-year period. This increase was not related to increase in general price level, but to changes linked with land use rights.

2.3.4.2. Value Creation

Gong et al. (2021) state that value created can be determined by linking land value increment with initial investments, and the difference lies in capital gains derived from public improvements. Infrastructure gives most perceptible and tangible benefits to its users and can be translated as value created. In addition, the relationship between land value and the type of infrastructure is directly proportional.

Value creation occurs each time when an action where the benefits exceed the costs are taken (Slegtenhorst, 2013). According to Ontario (2010) value is an individual's perception of the production and the appetite to pay for the gains that come with the product. Take for instance a railway infrastructure project; this type of project possesses the benefit of improving access to public transport to the local citizen. The land value of surrounding properties in that area will increase because the newly developed railway infrastructure increases convenience in terms of access to the neighbourhood and will also most likely attract the investment of supporting land uses; all of which contribute to the increase in land value.

2.3.4.3. Land Value Capture Instruments

Following the dynamics discussed surrounding value creation, it is imperative to then delve into understanding what needs to be put in place to ensure that the value created is now captured.

Value capture can be defined as the process of claiming value that has been created by the action performed during value creation, of which Offermans & van de Velde (2004) state that there usually exist different instruments that are used to capture this value. Gong et al. (2021) argues that local authorities should accept the responsibility of capturing value as a critical approach in obtaining value created. The approach of capturing should be clearly outlined and implemented to ensure maximum capture of capital gains (Gong et al. 2021, McGaffin et al. 2013, Medda 2012).

There are instruments used to claim a share in the resultant value increase of land and property directly or indirectly (Offermans and Van de Velde, 2004). The idea is that the claimed back funds can be used to fund more projects and stimulate developments. The relevant success of LVC is seen through the case studies of Hong Kong and Shenzhen, where railway stations are developed through “Rail Plus Property Model” which is also referred to as the R+P model (Gong et al. 2021). This LVC model operates in such a way that the land parcels around newly developed railway stations are exclusively granted to the government agency responsible for implementation of development at a ‘before rail’ price and then sold to private sector developers at an ‘after rail’ price. The difference in the two prices is that the value captured is used to cover some of the development costs which could not have been covered by the project’s allocated funds. The successful use of this model by both Hong Kong and Shenzhen can be clearly measured by its high-quality train services and relatively low fare price (Gong, et al. 2021). Some of the LVC mechanisms highlighted in literature include developer contributions, betterment levies/tax, property rates and major beneficiaries' contributions.

a. **Developer contributions** is a tool mainly used by local government where the developer pays a once-off fee as a condition of development permission or rezoning (Commonwealth of Australia, 2016; Offermans & Van de Velde, 2004). Payments from the market are usually designed to recoup cost of infrastructure (roads, sewer lines) related to the development.
b. **Betterment levy or property rates** are recurrent payments by landowners regardless of new development status charged by local government (Medda, 2012). The recurring payments charged are highly dependent on the nature of land or property value, thus, property rates are area and value based.
c. **Major beneficiaries' contributions-** This concept is accurately coined by Medda (2012), who explains that the major beneficiary contribution tool is negotiated between the developer (government) and those parties that benefit significantly from a project. An example includes cross rail in London, England where major contributions came from Canary Wharf Group, Heathrow Airport, and Bekerly Homes. The gains transferred to end users of the infrastructure are the most significant indicators of value created. LVC presents benefits gain for both end-users and public office, where end-users or beneficiaries enjoy the value created while public office is subsidized for infrastructure financing.
d. **Tax Increment Financing (TIF)** involves debt funding raised against the future anticipated increase in rates and tax collection which would be as a result of the infrastructure improvement in that specific geographic area (McGaffin et al. 2019). This mechanism has been popular in the United States of America, where local authorities estimate revenue/ value increases from LVC projects and use that value to issue bonds for private sector investments. TIF's reliance on rising property values after infrastructure investment makes it simpler to link beneficiaries and value created, correct beneficiaries pay for the value. As Medda (2012) pointed out, the development of regulations following the LVC concept in the United Kingdom, the Garden City at Letchworth (1903), and the Milton Keynes Development Corporation (1967) where land value arising from residential development were reinvested in local infrastructure developments.

2.3.5. Challenges to Land Value Capture

2.3.5.1. Increased tax burden

The property industry in Australia has shown discomfort with the value capture concept when first introduced and it was argued that it was just another tax burden on developers and end users (Commonwealth of Australia, 2016). Gong et al. 2021 acknowledges this idea and further adds on to state that stakeholders may view LVC more as a tax burden. It is, therefore, critical to have stakeholder engagements as a prerequisite to ensure support from stakeholders, objective and interests need to be clearly defined (Gong et al. 2021).

A prime example of a failed LVC project due to such stakeholder issues is the infamous South African e-toll project. It was initiated to improve road infrastructure within the Gauteng Province with an intention to recoup the costs acquired through motorists paying a tariff. Motorist refused to pay tariff and argued that it was just another tax burden over and above existing taxes. Beneficiaries want to see the correlation between benefits and payments and for LVC to gain support, there needs to be visible value created by that particular project.

2.3.5.2. Identifying the beneficiaries of the LVC project

According to Commonwealth of Australia (2016), developing a value capture strategy becomes challenging in identifying and measuring those who will benefit from the project being delivered. The identification of relevant beneficiaries is critical in implementing LVC projects. This is essential because it mitigates the risk of claiming value from incorrect beneficiaries while simultaneously denying those who actually need to benefit from the said project. For effective capturing, it is imperative to separate direct and indirect beneficiaries, and to ensure a clear comprehension of different beneficiary groups as result of that specific public action (Commonwealth of Australia, 2016)

2.3.6. Land Value Capture and Legal Factors in South Africa

McGaffin et al. (2019 & 2013) and Medda (2012) concur that the relevant South African legislations allow the use of LVC by government, however, municipalities do not have a written policy framework guiding LVC and its implementation. LVC is most successful when legal frameworks and administrative systems are well contextualised, therefore, the absence thereof are indicative of imminent failures that will emerge after the implementation of LVC projects. They further went on to state that some of the popular LVC tools used in South Africa are development charges and business improvement districts, although there is an increased desire to use tax increment financing (TIF) to fund future projects.

In addition to this, the lack of awareness and contextualisation of LVC in South Africa seems to be the biggest contributor of its failure and unsuccessful use. Section 229(1) of the Constitution of the Republic of South Africa states that local government may impose taxes, levies, and duties appropriate to local government if permitted by national legislation (Republic of South Africa, 1996). As a result of Section 229(1), three critical legislations emerged that were developed to govern local government operations, namely the Municipal Finance Act 56 of 2003, Municipal Fiscal Powers and Functions Act 12 of 2007 and Municipal Systems Act 32 of 2000 of which LVC can be implemented within the parameters of these legislations.

McGaffin et al. (2019) also found that finance ring fencing is essential in LVC because it ensures that the proceeds of value capture are used for the posit purpose. Ring fencing of income is, however, often viewed as problematic by authorities because it complicates their ability to set out budgets (McGaffin et al. 2019, Hickey-Tshangana, 2011). This is evident in South Africa because, as it stands, the Department of National Treasury prohibits local government from income ring-fencing, which causes a hindrance towards the successful implementation of LVC (Hickey-Tshangana, 2011).

2.4. KEY FINDINGS OF THE LITERATURE REVIEW

The key findings can be summarised as follows:

i. Infrastructure development is recognised, globally, as a key factor for economic growth and nation building, and acts as a tool to alleviate poverty levels because of its potential to create vast employment opportunities.
ii. Government, particularly local government, is a primary supplier of infrastructure.
iii. South Africa’s infrastructure development is heavily constrained due to funding gaps and economic challenges.
iv. There are different types of LVC mechanisms that can be used by local government such as developer’s contributions, betterment levies, major beneficiaries’ contributions, and TIF- amongst others.

v. There are threatening challenges that come with the use of LVC; however, the challenges can be eliminated by taking necessary precautions.
vi. Although LVC is being utilised in South Africa, it is not being used optimally which compromises its actual potential.
vii. Local government in South Africa does not have written policy frameworks guiding the implementation of LVC.
viii. The South African legislation allows the use of LVC; however, the understanding and contextualisation of LVC by key stakeholders is limited.
ix. LVC is not a fundamental solution to address the infrastructure funding gap, however, it plays an important role in relieving the already depressed infrastructure funding system.

2.5. CONCEPTUAL FRAMEWORK: GUIDELINES TOWARDS BETTER IMPLEMENTATION OF LVC BY LOCAL GOVERNMENT

Literature indicates that there is a lack of awareness and understanding in South Africa regarding LVC. Thus, using LVC as a source of funding infrastructure project is not clearly understood to encourage the much-needed development.
Conceptually, LVC that can be used by local government where some of the LVC mechanisms as explained in literature can be utilised based on project-specific aspects as shown in Figure 3 below.

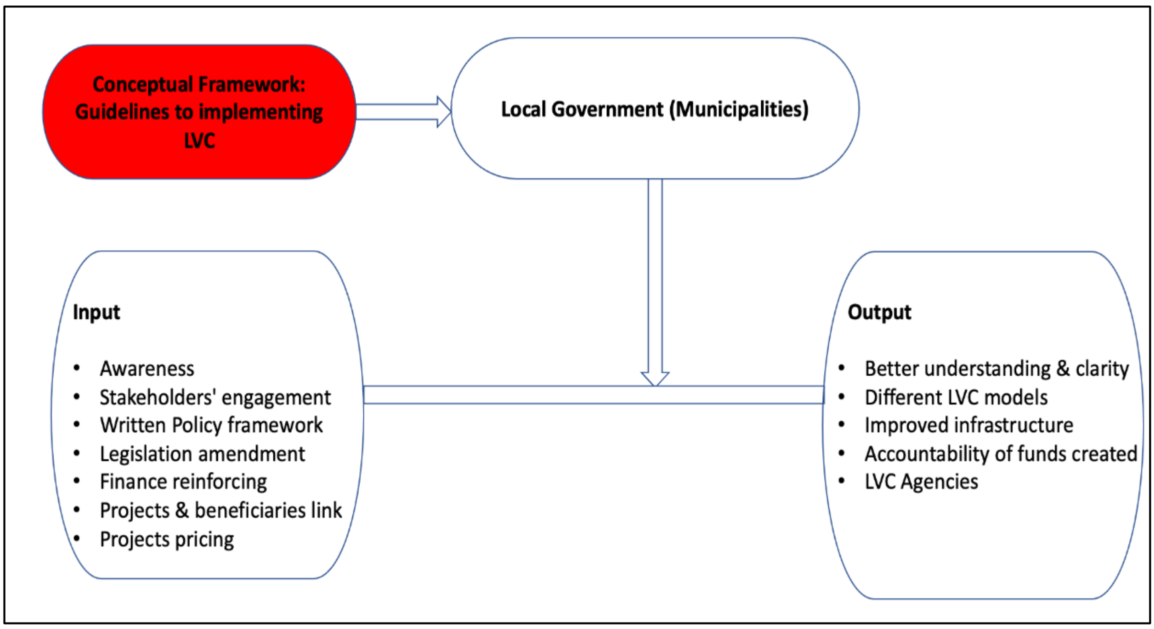

Figure 3 *illustrating a Conceptual Framework of the effective implementation of LVC. Source: Author, 2022.*

The framework incorporates legislation, reducing the challenges associated with the implementation of LVC, while increasing the opportunities that can be created to improve the delivery of infrastructure. LVC guidelines can raise awareness to policymakers and politicians, especially in local government for better implementation where the threatening challenges of LVC can be turned into opportunities. Figure 3 shows a conceptual framework towards effective implementation of LVC. According to Figure 3 conceptual framework, local government (municipalities) is the primary driver of LVC. For the successful implementation, local government ought to introduce the several inputs which will result in the much needed outputs. For example raising awareness as an inputs will produce better understanding and clarity of the LVC.

2.6. CONCEPTUAL LVC GUIDELINES

i. Raise awareness to policymakers, property developers, council, and government officials, amongst others, on infrastructure development funding through LVC.
ii. Local government must develop policy framework(s) to guide the implementation of LVC.
iii. Treasury must amend legislation to allow finance ring fencing and LVC proceeds should be ring fenced to only be dedicated to infrastructure development.
iv. The reconfiguration of various stakeholders is essential in the initial stage of every project.
v. Using PPP investments as a cost reduction strategy to fund infrastructure developments.
vi. Stimulate further spill-over effects by linking projects to beneficiaries (markets that pay) as this will encourage improved land use planning and infrastructure investment
vii. Affordable pricing helps reduce losses within the LVC investment framework, bearing in mind that infrastructure developments provide public goods with free rider problems.
viii. Establish internal municipalities LVC committees/ agencies/ structures.

CHAPTER 3: RESEARCH METHODOLOGY

3.1. INTRODUCTION

The purpose of this chapter is to take the reader through the reasoning behind the systematic approach that was undertaken to conduct this study as an attempt to obtain the crucial findings that will help address or resolve the research question posed. Simply put, the methodology refers to the plan of action for the study. In addition to this, the methodologies discussed will also reveal the extent of the validity and credibility of the study.

3.2. RESEARCH DESIGN

The research design has followed the 'research onion concept' coined by Saunders et al. (2016) and illustrated in Figure 4 below. This concept is deemed fit to unpack the steps followed in conducting research on LVC in terms of research philosophy, approach, strategies, time horizon, techniques and procedures that will be covered in detail.

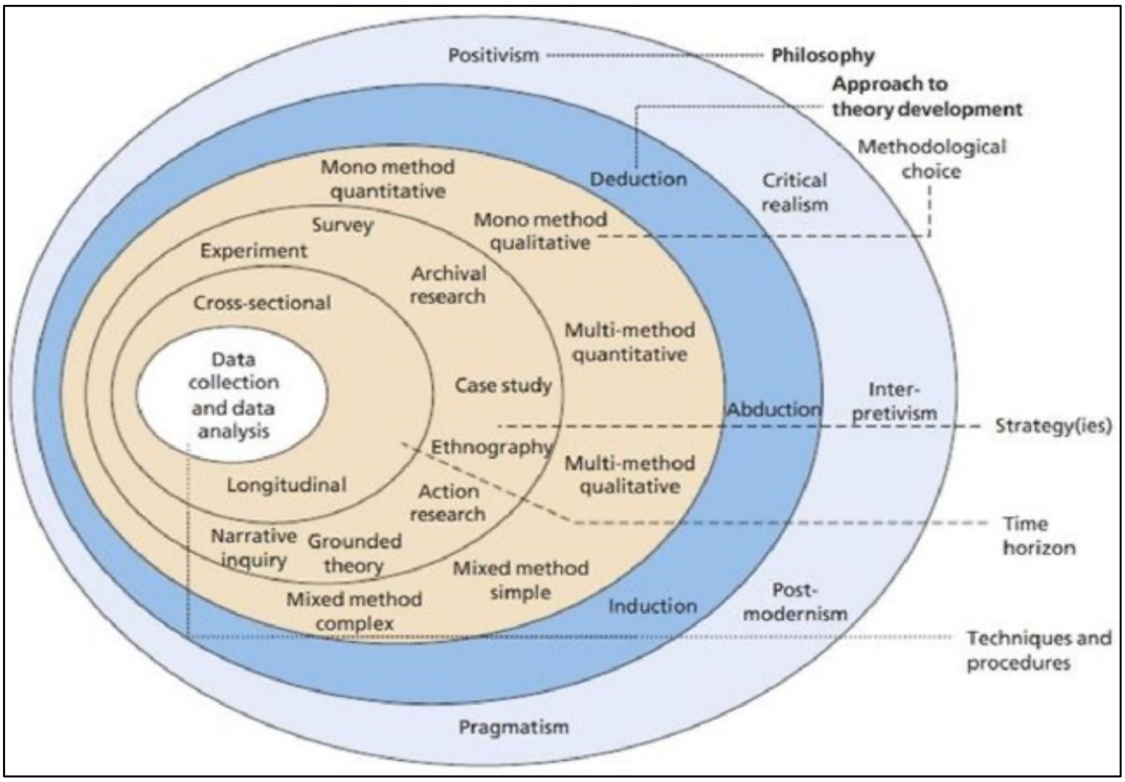

Figure 4 *the "Research Onion-Concept". Extracted from Saunders et al. (2016, pg. 124).*

3.3. RESEARCH PHILOSOPHY AND APPROACH

Saunders et al. (2016) define research philosophy as ‘a system of beliefs and assumptions about the development of knowledge in a particular field’. In the process of developing this knowledge, there are several assumptions that have been made based on epistemology, ontology, and axiology of the researcher. These assumptions have significant influence on aspects such as the understanding of research questions and the methods used to interpret findings. The philosophy adopted for this study is the ***pragmatism*** which is influenced by the assumptions and values adopted in conducting this research. This choice emerged from the belief that epistemology focuses on problem solving, practices, relevance, and practical meaning of knowledge in specific contexts. It is value driven while also initiated and sustained by the researcher’s doubts and beliefs.

3.4. METHODOLOGICAL CHOICE AND RESEARCH STRATEGY

The study adopted the ***qualitative research design*** which is defined as the method that involves non-numerical in data collection- of which the opposite is the quantitative research design. Qualitative research is fitting for this research study, its objective is to explore and unpack the ways that exist to implement LVC effectively within the South African local government. To further contextualise this, the ***case study*** method was used. Buharein (2008) defines a case study as a focus on a particular issue, event, etc. for the purpose of understanding the broader situation in great depth. The choice of cases must always be informed by the depth of information required for a particular research study.

It has been proven that combining multiple techniques for eliciting data in case study research strengthens the validity and reliability of results. Furthermore, to the multiple data collection technique, according to Yin (1993), multiple case studies enhance the acceptability of generalization.

For this study, two metropolitan municipalities in South Africa; namely, the City of Tshwane (CoT) and the City of Johannesburg (CoJ) were used as case studies to help contextualise and further investigate the research problem and questions brought forth. The two metropolitan municipalities were purposely selected for their significant importance in the South African economy; CoJ is the country’s business hub and CoT is the government administration capital city.

3.5. TIME HORIZON

For data collection, the study collected cross-sectional data sets for analysis. This is because the study was undertaken within defined period as it is for the purpose of master’s degree which needed to be completed within 2 years.

3.6. ETHICAL RISKS AND MITIGATION STRATEGY

The possibility of unconsciously taking a politically correct or biased stance for this study cannot be ignored, particularly because of my proximity to the CoJ, as an employee to the institution. With this in mind, and considering other factors pertaining to this study, it is, therefore, crucial to ensure that the necessary ethical procedures are addressed and acknowledged throughout this study.

Ethical clearance with reference to **Annexure A** was obtained from the university which helped guide the ethics that are expected to be withheld to the standard and satisfaction of the university.

It was also vital to avoid political connotations and leaning towards certain political stances and biases, which could have impacted the credibility of the data analysed.

Biased selectivity of documents was also very likely which could have led to the study being aligned with policies and narratives of a particular political organisation. To mitigate biased selectivity of documents, reviewed documents were purposely selected based on the themes from the conceptual framework and extra caution was taken when analysing and reviewing documents and articles that pushed a particular political narrative and agenda.

Consent forms attached as **Annexure D** were used to attain informed consent from all respondents prior to interviews.

Lastly, to fully understand the broader purpose of upholding the ethics of this study, an advanced course in research ethics was attended.

3.7. DATA COLLECTION & ANALYSIS

3.7.1. Data Collection

For this study, data was collected in two steps.

The first step was the collection of data in the form of **document analysis** where journal articles, policy documents, legislations, government gazettes etc. on LVC were purposely selected and analysed to understand how LVC should be carried out in South Africa.

Secondly, data was collected through semi-structured interviews from municipal experts on policy making, property development, planning and infrastructure delivery from the study areas: the CoJ as well as the CoT.

3.7.2. Document Analysis and Archival Research

According to Bowen (2009), document analysis is a systematic process of reviewing, evaluating & analysing documents to discover data that will assist in answering the research question. Documents provide a record of information and may be in the form of policy documents, meeting minutes, legislations, journal articles, et cetera.

Paradza (2020) further describes document analysis as archival research where documents such as existing literature, policy documents, and reports, for example, are critically reviewed relative to certain guidelines with the intention to unravel agreements and/ or conflicts among the reviewed documents and set guidelines. Document analysis is often used in combination with other qualitative methods as a means of triangulation to reduce biases that could be found on documents as they were not originally produced for research purposes (Nagy, 2019 & Bowen, 2009). The advantages of using document analysis as a qualitative method technique is that it is time-efficient and requires data selection as opposed to data collection, of which the data selected is easily accessible in the public domain (Bowen, 2009).

This study used five documents based on the themes found on conceptual framework.

3.7.3. Interview data

Alshenqeeti, (2014) & Buharein, (2008) define *interview* as a dialogue between interviewer (researcher) and interviewee (the individual who essentially contributes to the data). The purpose of conducting interviews is, mainly, to expand the body of knowledge that already exists. This is because the knowledge harboured by individuals may, to a certain degree, be knowledge that has not been revealed yet and will thus expand the body of knowledge that exists and may even go as far as contributing to the conception of new theories that could have an incredible impact on the research question and problem statement.

Interviews, as a qualitative method of collecting data, are divided into four types: structured, unstructured, semi-structured and focus groups. This study focused on **semi- structured interview** which were conducted in combination with document analysis to provide confluence of evidence that breed credibility to the study.

Semi-structured interviews are a more flexible version of structured interviews, where the interviewer is allowed to probe and expand interviewees' responses. The study conducted semi-structured interviews with 10 different participants with significant experiences in the South African local government (municipalities), planning, infrastructure delivery, finance, and municipal policy. The participants were purposefully selected based on the relevant knowledge and experience on the subject matter. The time taken to complete each interview averaged at 45 minutes, and the interviews were conducted via online Microsoft Teams. All the interviews were recorded, and the function of transcription was used to translate all voice sound into written conversations.

3.7.4. Data Analysis

Data analysis is a systematic process of interpreting data into meaningful information that is useful in answering research questions. This study adopted **content and thematic analyses** to analyse the data with the aim to make recommendations on guidelines towards better implementation of LVC.

3.7.4.1. Content analysis

Content analysis is a process of organising information into categories related to the central question of research. In this study, content analysis has been used to analyse documents where conceptual framework guidelines were used as themes and coding process was guided by the information on the documents. Bowen, (2009) advises that research studies should ensure that the content of documents selected fits the conceptual framework of the study. In this study, the five purposely selected documents were analysed on Microsoft Word guided by the guidelines of analysing documents manually Adu, (2020).

Document 1 is the Johannesburg Development Agency (JDA) business plan 2020/2021. It is a document, readily available for public consumption where the main purpose of the document is to outline the objectives, operation matters, projected future, and performance overview of the JDA. The document was produced by the executive management of the institution under the leadership of the chief executive officer and approved by the mayoral member committee for development planning.
Document 2 is the South African legislation: the Municipal Fiscal Powers & Functions Act 12 of 2007. Its primary objective is to regulate and assist municipalities to exercise their powers to impose surcharges on fees for services provided under section 229(l)(a) of the Constitution. It also aims to provide for the authorisation of taxes, levies, and duties that municipalities may impose under section 229(l)(b) of the Constitution and to provide for matters connected therewith.
Documents 3 and 4 are the Municipal Systems Act 32 of 2000 and Municipal Finance Management Act 56 of 2003 respectively of the South African legislature. Their primary objectives are to prescribe and regulate the management of municipalities and its finances.
Document 5 is the CoJ's Development Contributions "Policy Draft June 2020" prepared by a consulting team for the CoJ. The purpose of this document is to simplify and integrate the process of paying development contributions.

The choice of all five documents is informed by the conceptual framework discussed in literature review chapter and its relevance to the research questions, objectives and aim of the study.

a. Content Analysis Process

The analysis of documents begins with a thorough process of selecting key relevant documents; the choice of documents was informed by research questions, aims and objectives of the study. Each document was reviewed and analysed rigorously guided by the research questions. Any significant information that appears to contribute to possible answers was then coded under the relevant theme. The systematic technique process followed in this study is shown below in points form:

Step 1: State the research questions to be answered by document analysis.

Step 2: Examining the conceptual framework. The conceptual framework deduced in literature was re-visited and examined for better understanding. The conceptual guidelines towards successful implementation of LVC are used as the themes.

Step 3: Use the conceptual framework guidelines as themes and develop code frames from the information on the documents

Step 4: Review all documents individually to gain accurate understanding of the content.

Step 5: Proceed to code the themes that have emerged based on the key findings in each document.

Step 6: Compile all codes.

Step 7: Arrange the codes alphabetically

Step 8: Count number of times a code appears (Tally codes)

Step 9: Sort the codes under their respective theme table

Step 10: Engage in critical thinking and free writing

Step 11: Present the findings

3.7.4.2. Thematic analysis

Thematic analysis is a method for analysing qualitative data that entails searching across data sets to identify, analyse, and report repeated patterns (Braun and Clarke, 2006). Mohammed (2012) defines this as a process of interpreting data by developing codes and themes found in the data and states that it is suitable in generating theories. The choice to use thematic analysis is informed by the nature of study a researcher is undertaking; for example, "an inductive or deductive study that needs an interpretation of qualitative data". Thematic analysis is, therefore, appropriate in studies that aim to understand the current practices of the organisation, event, individual, et cetera. In this study, thematic analysis was used to interpret and analyse data from semi-structured interviews using NVIVO (2020) software as shown in Figure 5 below.

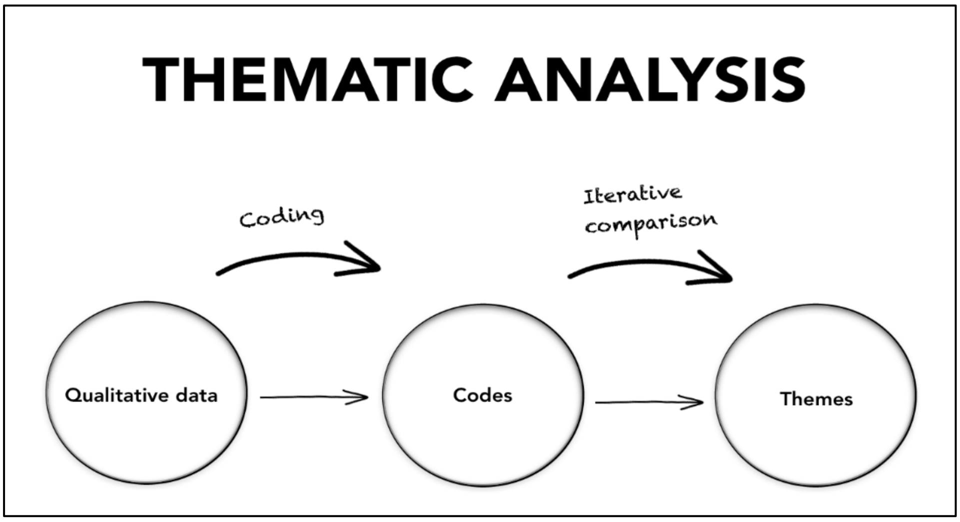

Figure 5 *illustrating the process of thematic analysis. Source: www.nngroup.com*

According to Figure 5 above, interview data is collected then converted into different codes. The codes will be further compressed into main themes. The whole process is referred to as thematic analysis.

3.8. RESEARCH DESIGN SUMMARY

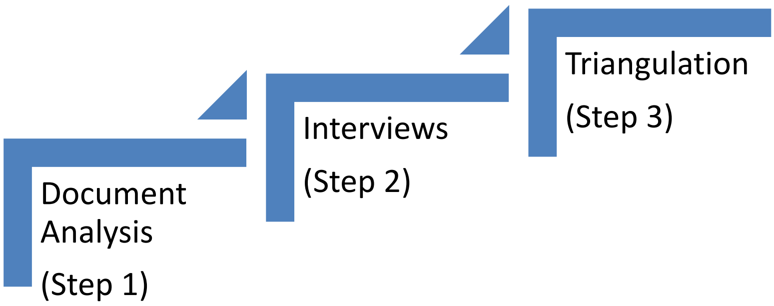

***Figure 6** showing the three research mixed methods used to collect and analyse data. Source: Author, 2022.*

The first step of the research design uses **document analysis,** using secondary data which fulfils the first and second research objectives (i.e., to investigate the problems that deter effective use of LVC in South Africa; and to investigate concrete proposals and legislative amendments that are needed to circumvent the current limitations of applying LVC).

The second step was to use **semi-structured interviews** to follow up on the conclusions found in step 1.

The third step is **triangulation**, where findings from two data tools are discussed in terms of how they compare, support, and conflict one another. Recommendations were made based on the on guidelines posed to better implement LVC which fulfils the third objective: drawing the guidelines on how LVC can be effectively used in South Africa.

Research Objectives	Methodology	Method Technique
Research objective 1	Qualitative	Document analysis & Semi- structured interviews
Research objective 2	Qualitative	Document analysis & Semi- structured interviews
Research objective 3	Qualitative	Triangulation (Thematic & Content Analysis)

***Table 1** summarising the research methods and techniques used. Source: Author, 2022.*

Table 1 is summarising how the three research objectives of this study were achieved, in relation to the methodology and technique that were employed for this study. All three objectives were achieved through qualitative methodological approach. In relation to technique, Objectives 1 & 2 were achieved by using document analysis & semi-structured interviews. Objective 3 was achieved through triangulation.

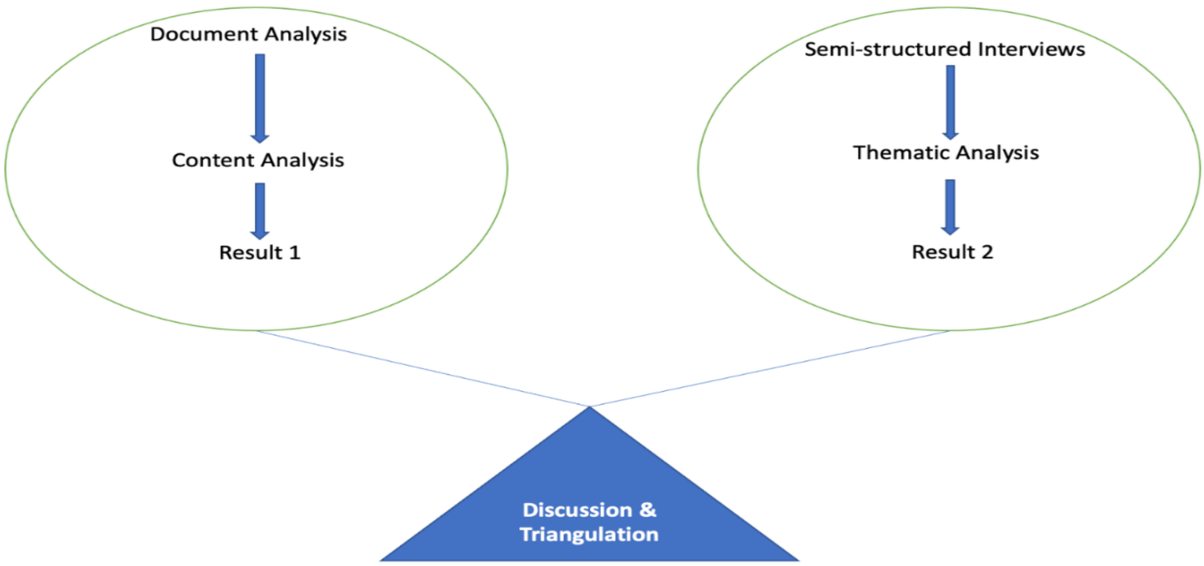

Figure 7 depicts the methodological approach of the data analysed in this study. Two complimentary methods were used to collect data. Document analysis was done as a

***Figure 7** summarising the methodical approach of the data analysed. Source: Author, 2022.*

first step, and data from selected document was analysed using content analysis to get result 1. Semi structured interviews were done as step 2, data from interviews was analysed using thematic analysis to get result 2. Results from two data tool were discussed in terms of how they compare, support, and conflict one another to arrive at the recommendations.

CHAPTER 4: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1. INTRODUCTION

The purpose of this section is to present the findings from the data collected in relation to the research questions, purpose, and objectives of the study.
The main aim of this research is to contextualize ways in which LVC can be effectively used by local government to fund infrastructure projects given economic declines and budget constraints experienced by South African government. The study is to further recommend a set of guidelines suitable for the effective implementation. The conceptual framework of guidelines towards successful implementation of LVC was used as a basis to analyse selected key documents.

The structure of this section will take on the following pattern: Firstly, the key findings will be discussed in a thematic form. The themes are the conceptual guidelines towards successful implementation of LVC and through these themes, one will be able to understand what the documents entail regarding the status quo of the implementation of the LVC by the South African local government.

4.2. FINDINGS

4.2.1. Findings: Document Analysis

Themes	Usage (1)	Stakeholder Engagement (8)	Policy Framework (2)	Legislation (9)	Projects Implementation (8)
Codes	Evidence of Knowledge of LVC (1)	Successful Stake Engagement (2)	Unavailability of LVC policy framework (2)	Finance reinforcing permissible (1)	Fair Projects & Beneficiaries link (5)
Codes	Evidence of intentional use of LVC (0)	Unsuccessful-stakeholder engagement (2)	Available policy framework (0)	Finance reinforcing prohibited (0)	Effective Projects pricing (1)
Codes		Poor Working relationship between departments (4)		Permitting Legislation on LVC (8)	Poor Projects Planning & Management (2)
Codes		Good Working relationship between departments (0)		Prohibiting Legislation on LVC (0)	Ineffective project pricing (0)

Figure 8 *showing the results found from the document analysis. compiled by Author (2022)*

The findings that emerge from this section were from 5 purposely selected documents that were analysed using content analysis. The documents include government reports, policies and legislation, whose roles and functions are within the confines of development planning, infrastructure delivery, finance, municipal policy & legislation. Figure 8 below depicts the appearance frequency of themes that arose from the conceptual framework to see if documents agree with the conceptual framework.

4.2.1.1. Usage

The documents analysed indicate that there is a very low usage of LVC by local government in South Africa. In fact, there is no relevant significant information from the reviewed documents which indicates that there is use of LVC to fund future infrastructure development. There is evidence from documents that local government have some knowledge of LVC, however the frequency of that is minimal. Further to the above-mentioned, the significant information found on the knowledge of the LVC does not directly speak to the LVC concept in detail.

4.2.1.2. Stakeholder management

The conceptual framework highlights that stakeholder management is one of the key guidelines towards successful implementation of LVC by local government. From all five documents, emphasis was on the engagement between public office and beneficiaries. The data collected also show equal representation of both successful & failed stakeholder management. Furthermore, there is high number of significant information on poor working relationship and coordination between local government departments, and there is no evidence on documents suggesting that there is good working relationship between departments.

4.2.1.3. Policy Framework

The significant information found in the data collected suggests that there is no formal written policy framework currently by the South African local government. Very little to no information was found from all five documents suggesting the availability of written policy framework on land value capture.

4.2.1.4. Legislation

The significant information on legislation has the highest frequency in this analysis where all five documents suggest that South African legislation allows the implementation of LVC in its current form. Documents, however, do not show any information suggesting prohibiting legislation on LVC. However, legislation lacks specificity and clarity.

4.2.1.5. Project Implementation

All five documents indicate a mix of findings on projects implementation where the ‘fair projects & beneficiaries link’ has a highest code frequency under this theme which suggests that projects-beneficiaries link is implemented appropriately. However, there is poor project planning and management as it is the second highest code frequency under this theme. Effective project pricing is the third highest frequency, followed by ineffective projects pricing which has a zero frequency. Lastly, it was found that there is no significant information on documents which relates to ineffective projects pricing.

There are significant inconsistences between how LVC is currently implemented and how the framework commands it to be implemented. According to the findings from the documents, LVC is still fragmented and that is the reason it cannot be used effectively currently to promote infrastructure growth as highlighted by the conceptual framework of the study which was discussed in Chapter 2 of this study.

4.2.2. Findings: Semi-Structured Interviews

The findings that emerge from this section were from interviews conducted with 10 participants employed in local government, whose roles and functions are within the confines of development planning, infrastructure delivery, finance, and municipal policy.

Figure 9 below depicts the main themes that arose from the interview data sets which were analysed using thematic analysis on NVIVO 2020 Software. Interviews were conducted as a complimentary data tool to document analysis to further help effectively compare the two data sets for recommendations on guidelines towards better implementation of LVC can be made.

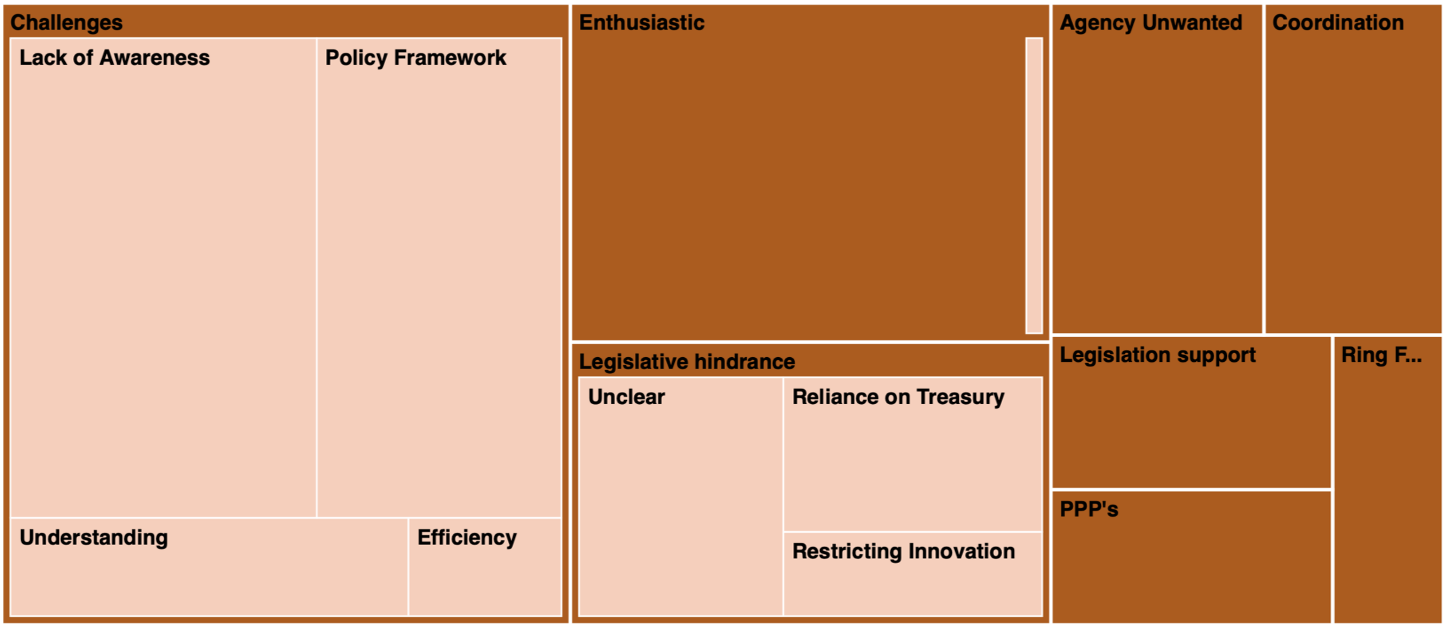

Figure 9 *showing the results found from the semi-structured interviews. Compiled by Author (2022).*

4.2.2.1. Challenges

From the semi-structured interviews, the theme of **challenges** in implementing LVC was the most prominent theme as it resembled highest coding references than all other codes. The results indicate that 'lack of awareness' of the LVC concept in the local government space is the major challenge deterring effective implementation of LVC. A reference from *Participant 1* reads as follows *"…so for us, it's quite a new concept. It's a coincidence that I'm doing this interview now because I think a couple of weeks ago my line manager sent me an invite to a webinar…"*

Another participant stated that *"…we have been exploring alternative sources of funding, but LVC was not a part of those things."*

The references from these two participants confirm that there is a general lack of awareness regarding LVC. Following this is the lack of policy framework, where more participants emphasised the lack of municipal policy framework as a significant challenge deterring effective implementation of LVC. The last two identified challenges are lack of understanding and efficiency of municipalities in the order of their prominence respectively.

4.2.2.2. Enthusiastic

Enthusiasm is the theme with the second highest references. Participants have shown a level of eagerness and willingness to expand their knowledge on LVC which will then lead to the effective adoption LVC in local government. One participant, for example, indicated their keenness to explore LVC as a possible means of an alternative source of funding.

The theme of enthusiasm came unexpectedly as the study initially did not intend to investigate the willingness of municipalities to further explore and adopt the LVC method.

4.2.2.3. Legislative Hindrance

The results obtained reveal that there is an element of legislative hindrance in implementing LVC by South African municipalities. The legislative hindrance theme had the third highest number of references.

The analysis shows that often the legislature is unclear on LVC implementation, and in fact, there is minimal information on legislature that speak directly to LVC. The results also indicate the over expectation on National Treasury in implementing LVC other than municipalities. Municipalities have limited power to act on their own without constantly obtaining approval from National Treasury.

The last legislative hindrance that emerged from the findings is the restriction of innovative ideas. LVC as a concept is very versatile. With this said, different and innovative approaches to implement LVC can be explored; however, the current legislations are quite rigid and leave very little room for the innovative implementation of LVC.

4.2.2.4. Agency Unwanted

A significant number of participants are of the belief that new agency within municipalities dedicated for the implementation of LVC is not necessary, which indicates that to them, the introduction of new agency within municipalities is most likely not the ideal solution to the successful implementation of LVC.

4.2.2.5. Coordination

LVC is a multi-disciplinary concept that requires coordination from different interlinked departments within the municipality. For example, for the concept to work to its optimal potential, it will require departments such finance, planning, and the infrastructure department working together to realise this vision.

Thematic analysis reveals that there is poor coordination between different disciplines of the local government. Different disciplines are either not communicating with each other or communicating ineffectively. Strong coordination between relevant department is part of the important aspect in implementing LVC effectively and without it, the implementation of LVC will most likely fail.

4.2.2.6. Legislative Support

The data collected indicate that the current South African legislation allows for the implementation of LVC, however, the legislation is unclear. Participants have indicated that there is no legislation that exists that averts the use of LVC in South Africa. The issue is that the legislation speaks less about the concept and, at times, does not refer to this concept at all.

Participant 11 spoke directly to this theme stating: *"…and maybe then maybe there's a gap, but I'm not convinced that, like I said, the first immediate thing is to create specific legislation. I think we need to refine the current instruments to better capture the value."* This statement clearly reinforces the idea that current legislation doesn't avert the implementation of LVC.

4.2.2.7. PPPs and Finance Ring Fencing

Thematic analysis shows PPP's and Finance Ring Fencing as one of the nodes that the interviewees highlighted as the least prominent, yet important. Participants emphasised on the role of PPP's model in implementing LVC successfully. Participant 5 made an example using Hatfield- a suburb in the CoT- as a good example of successful business improvement district. They further went on to state that *"…the reason why Hatfield is thriving is not only because of government but the partnership with private sector…"* This verifies that PPPs are considered as an integral part in implementing LVC successfully. Finance Ring Fencing is a finance phenomenon where funds generated from a specific type of revenue is set aside to only be used for certain defined purpose. In this study, it refers to funds being generated from LVC to only be dedicated for infrastructure development and delivery. For the realisation of successful implementation of LVC, participants are suggesting that the value generated from land value increase should be ring fenced for the use of infrastructure development & planning.

4.3. TRIANGULATION & DISCUSSION

The research problem states that the South African government is under pressure to deliver the much-needed infrastructure to meet the rapid rate of urbanisation, the envisioned economic growth, and the redressing of historical injustices. The economic declines and budget constraints have made it difficult for government to deliver the required infrastructure. LVC has been identified as one of the alternative funding mechanisms to aid government with the problems it faces, however, LVC is not optimally utilised in South Africa.

The objective of the study is to investigate the challenges around implementation of LVC and how to circumvent the challenges through developing guidelines towards its successful implementation. The results suggest a significant correlation between the literature review as well as the data collected and analysed. The major findings from the document analysis and the semi-structured interviews are as follows in the order of their prominence:

i. There is profound lack of awareness and understanding of the LVC concept in the local government fraternity.
ii. Policy framework to guide the implementation of LVC is vital but it seems as though the South African local government does not have the relevant policy frameworks dedicated for LVC implementation.
iii. The inefficiency and skills incapacity of local government are a major hindrance to successful implementation of LVC.
iv. There is significant information indicating that there is high level of enthusiasm among local government experts, developers, etc. to use LVC usefully as an alternative funding mechanism.
v. There is legislative hindrance in a form of the following: (1) The legislation around LVC is unclear and, at times, is completely silent on what needs to happen and how it should happen; (2) There is over-reliance on National

Treasury where municipalities are not able to implement LVC independently without interference and red tapes from National Treasury; (3) The municipal legislations such as MFMA and others restrict LVC innovation because the legislations are typically very rigid by nature.

vi. There is poor coordination between relevant departments within the local government, and with LVC being a multidisciplinary, this poor coordination must be rectified, or the implementation thereof will most likely fail.

vii. There is significant information indicating that South African legislation in its current form allows and support LVC implementation, however it is seemingly unclear.

viii. PPPs are an integral part of successful implementation of LVC.

ix. Finance Ring Fencing is a vital mechanism to ensure that value captured is utilized solely on infrastructure development projects.

The comparison between the document analysis and the interviews conducted shows a positive correlation of the two data findings. Both results highlight "lack of awareness and understanding" as the major challenge towards successful implementation of LVC in South African municipalities. The level of knowledge on the concept of LVC is very limited in the South Africa which support the claims of McGaffin (2019) that says the legislation is very silent on the concept and at times no one knows what needs to happen and when it should happen. The absence of LVC policy framework is a corroboration that indeed general awareness is not up to the acceptable standard, hence not many in local government have realised the urgency to have LVC policy framework. In fact, there is an interesting correlation between the three findings i.e., lack of awareness, policy framework, and enthusiasm. The relationship is that there is no policy framework because municipalities lack full understanding of the importance of this concept, and the enthusiasm stems from a place of curiosity and inquisitiveness. The legislative hindrance and legislation support findings seem to be contradicting each other because on one hand, there is legislative hindrance, while on the other, the legislation supports the LVC implementation. The reason for this contradiction points back to the lack of awareness and understanding because the legislation is silent about LVC, making it difficult to claim that legislation prohibits its implementation. However, some of the requirements that do not concern LVC become a hindrance, and it is because they are formulated without LVC's consideration.

4.4. LIMITATIONS

Despite the significant value the study is contributing to both academia and practice, there are research limitations affecting the results of the study.

In terms of participants, the study targeted only experts with experience in the metropolitan municipalities which entirely excludes experts with experience from relatively smaller municipalities. The conditions and functioning of the smaller municipalities could be slightly different from the metropolitan, therefore, the level of generalisation of the results could be slightly limited.

Furthermore, due to time constraints and accessibility, only five documents were selected for analysis out of many other relevant documents that exist. Significant information from the omitted documents could have impacted the results and could have thus influenced the theories that emerged therefrom. However, despite these limitations, the reliability and validity of the study remains intact.

CHAPTER 5: CONCLUSION AND RECOMMENDATION

5.1. INTRODUCTION

This chapter will conclude the study by summarizing the key findings in relation to each research objective and question. Furthermore, it will discuss the study's value & contribution to both academia and practice. Lastly, this section will bring forth recommendations in the form of guidelines towards successful implementation of LVC based on the overall findings of the study and conclude by discussing opportunities for future research.

5.2. KEY FINDINGS

In South Africa, traditional methods of funding infrastructure development by the government are overwhelmed and there is urgency to use alternative funding models such as LVC.

Economic declines, rapid urbanisation and budget constraints are exerting extreme pressure on government to deliver adequate infrastructure; however, factors such as budget constraints render this mission impossible. Alternative funding model such as LVC are not well contextualised to fill the gap in South Africa; and studies on the justification and need to utilize LVC as an alternative funding mechanism have been overwhelmingly undertaken. Even so, studies on how to implement this effectively is very scarce.

The results indicate significant challenges and legislation shortcomings experienced by the South African local government in implementing LVC effectively. There are significant inconsistencies between how LVC is being currently implemented and what the proposed guideline appraises it to be. It can thus be concluded that the use of LVC to deliver infrastructure is still haze and fragmented to guide its successful implementation by municipalities. There is still lot of work to be done to fit the ideal requirement of a successful LVC.

5.3. CONCLUSION ON RESEARCH OBJECTIVES AND RECOMMENDATIONS

5.3.1. Conclusion

Objective 1: The study reveals a significant number of challenges such as lack of awareness, understanding, policy framework, efficiency, coordination, and legislative hindrance as the major problems deterring the successful implementation of LVC. These findings confirm the claims made in the literature review concerning the 'lack of awareness & understanding' by McGaffin (2019; 2013). This study's findings on 'Finance-Ring-Fencing' conflicts the finding of Hickey-Tshangana (2011) who found that the South African National Treasury municipalities from implementing income ring-fencing. This study concludes that Finance Ring Fencing is crucial for successful implementation of LVC as claimed by McGaffin et.al. (2019) and it is not prohibited by legislation as found in both the documents analysed and the interviews conducted.

The study further conflicted with conceptual framework on LVC agency. Conceptual framework had envisaged LVC agency as one of the guidelines towards successful implementation of LVC by local government in South Africa, but the results obtained concluded that LVC agency cannot be a solution towards successful implementation of LVC.

Objective 2 & 3: The study reveals that the current limitations of applying LVC can be circumvented through the elimination of challenges by taking necessary steps to remove these challenges. Most challenges limiting the successful use of LVC are anchored around the implementation processes & legislation. In support of the claims made by McGaffin (2013), legislation in its current form does allow the implementation of LVC, however, it is unclear and too silent. Legislative reforms and amendments that allow for clarification, specificity & intentionality around LVC should be seriously considered. The integration of LVC into municipalities infrastructure delivery plan will ease a lot of the pressure from government.

5.3.2. Recommendations

It is, therefore, recommended that the sustainable development of cities can be ensured by integrating LVC into infrastructure funding model in South Africa.

i. LVC requires an investment in awareness and understanding.
ii. Municipal policy framework on LVC and other legislations should be introduced, and existing legislation that touched on the LVC concept should be amended so that the concept can be clarified and emphasised.
iii. Efficient coordination between local government departments is essential.
iv. PPPs should be further promoted and prioritised.
v. Urban capital investments that are recovered through LVC instruments in the form of tax, inducements, and agreements between the municipalities, companies and the communities or the markets will benefit municipalities immensely in the revenue generation efforts.
vi. Legislation to reduce the challenges associated with LVC.

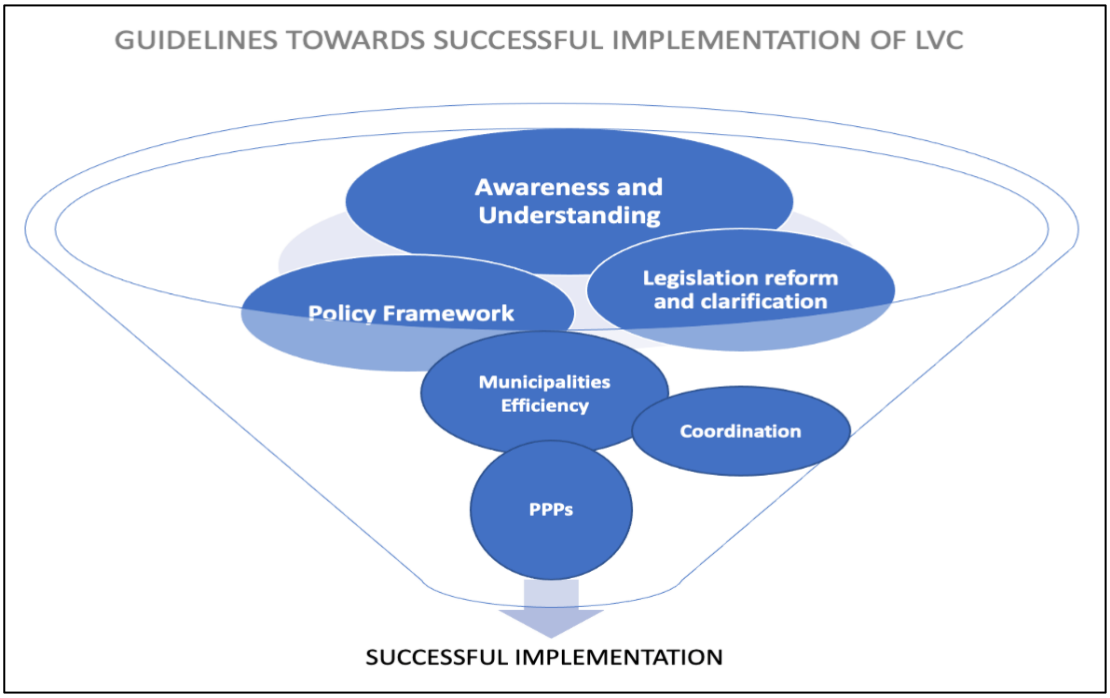

Figure 10 *illustrating the guidelines towards the successful implementation of LVC. Compiled by Author (2022).*

The funnel above shows all necessary inputs needed to achieve successful implementation of LVC in South Africa by local government. The guidelines listed in the funnel (Figure 10) are recommended for successful implementation of LVC by SA local government.

5.3.3. Research Contributions

This study has contributed to research output in the form of a peer-reviewed conference paper which was submitted and presented at the 21st African Real Estate Society conference held in Ghana from the 6th – 9th September 2022.

The study also contributes by bringing a solution to an infrastructure funding gap problem in South Africa, and the solution to this problem is put forth in the guidelines towards the successful implementation of LVC as an alternative funding mechanism.

Existing literature focuses more on the justification and need to use LVC, but little research exists on how to implement it successfully. These results demonstrate that there is important element about implementing LVC successfully which has not received enough attention. The justification and need to use LVC is imperative, however, the "how" part is equally important and the guidelines towards successful and effective use of LVC is equally crucial.

This study agrees with the existing literature in relation to how LVC can be an alternative funding mechanism to ease pressure from government budget and further contributes to the body of knowledge by investigating challenges that deter effective use of LVC and how these challenges can be circumvented. Practitioners of local government can practically and easily adopt the recommended guidelines to better implement LVC in South Africa.

5.3.4. Future Research

The study recommends that future research should focus on land value deterioration/ destruction in South Africa and how local government is addressing this issue. Another future research focus should be on municipalities efficacy & capacity to solve the problem of inefficiency that exist across South African municipalities. Further research should also focus on the relationship between South African National Treasury and municipalities in relation to LVC implementation.

6. REFERENCES

Australian Government (2016), Using Value Capture to help deliver major land transport infrastructure, Discussion paper by Commonwealth of Australia. ISBN 978-1-925401-96-7/ INFRASTRUCTURE-2986

Alshenqeeti, H. (2014), Interviewing as a Data Collection Method: A critical review, English Linguistics Research, Vol.2, No. 1, pp. 39-45

Braun, V. and Clarke, V. (2006), Using thematic analysis in psychology, *Qualitative Research in Psychology*, vol. 3, no. (2), pp. 77-101.

Bowen Glen A. (2009), Document Analysis as a Qualitative Research Method, *Qualitative Research Journal*, vol 9, no. 2, pp.27-40

Gong W, Li j. & Kam Ng M. (2021), Deciphering Property Development around High-Speed Railway Stations through Land Value Capture: Case Studies in Shenzhen and Hong Kong, *sustainability*, *13*, 12605. https://doi.org/10.3390/ su132212605

Higgins, C. D. (2019), A 4D Spatio-Temporal Approach to Modelling Land Value Uplift from Rapid Transit in High Density and Topographically Rich Cities, *Landscape and Urban Planning*, Vol. 185, pp. 68-82.

Medda, F. (2012), Land value capture finance for transport accessibility: A review. *Journal of Transport Geography*, Vol. 25, pp. 154-161.

McAllister, P., Shepherd, E., and Wyatt P. (2018), Policy shifts, developer contributions and land value in London 2005-2017, *Land Policy*, Vol 78, pp. 316-326

McGaffin, R., Viruly, F. and Boyle, L. (2019), An investigation into the use of land-based financing to fund infrastructure in South Africa,’ *Journal of Property Investment & Finance*, Vol. 39, No. 3, pp. 183-198. https://doi.org/10.1108/JPIF-02-2019-0016

McGaffin R, Napier, M & Gavera L (2013), Value Capture in South Africa-Conditions for their Successful Use in the Current Legal Context, *Urban forum*, 25, pp 375-387

Mohammed Ibrahim, A. (2012), Thematic analysis: a critical review of its process and evaluation, *West east journal of social sciences,* Vol. 1, No.1, pp.39-47

Nowell, S. L., Norris, J. M., Deborah, E. W. (2017), Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *Sage Journals.* Volume 16. Issue 1 https://journals.sagepub.com/doi/full/10.1177/1609406917733847

Noor Mohd K.B, 2008, Case study: A strategic research methodology, *American Journal of Applied Sciences,* Vol 5, no. 11, pp.1602-1604

Offermans, R. N. & Velde D. M (2004) Value Capturing-Potentieel financiering instrument voor Nederland? Erasmus Universiteit, Paradza, P., Yacim, J., Zulch, B. (2019), A Critical Review of Property Valuation for Expropriation in Zimbabwe, *The AfRES Annual Conference Proceedings*, 19th, pp 424-449

Price Waterhouse Coopers (2015). Real Estate. Building the Future of Africa. www.pwc.co.za/real estate: Accessed on 18 June 2022

Santos, V (2016). Overview of Common 'Land Value Capture' Tools. The World Bank. https://csp.treasury.gov.za/Resource%20_Centre/Conferences/Documents/Catalytic%20Urban%20Redevelopment%20Projects/Day%203/Valerie_Santos_201603_Overview_of_LVC_for_SA.pdf : Accessed on 16 July 2021

Saunders, M., Lewis, P., Thornhill, A. (2016) Research Methods for Business students,7th edition, England, Pearson Education Limited.

South African Property Owners Association (SAPOA) (2019). Value Capture in South Africa. A way to overcome urban management challenges and unlock development opportunities. 50th Anniversary Convention and Property Exhibition

SA National Treasury (2019) South African National Budget Review 2019/2020.

Schmid, A. (1970), Suburban Land Appreciation and Puiic Policy. *Journal of the American Institute of Planners*, Volume 36, Issue 1, pp. 38-43.

Slegtenhorst, I. (2013), *From value creation to value capture, instruments of indirect value capture to fund investments in road infrastructure projects,* Delft University of Technology. Masters Dissertation. Deft University, Construction Management & Engineering.

Squires, G. and Hutchison, N. (2014). The Death and Life of Tax Increment Financing (TIF) Redevelopment Lessons in Affordable Housing and Implementation. *Property Management*, Vol. 32. (5), pp. 368 – 377.

Simbanegavi, P (2019). *Effects of Mixed Income Housing on Neighbourhood House Prices and Investment Guidelines for Future Inclusive Developments in South Africa.* PhD Dissertation. The University of the Witwatersrand.

Shamoo, A.E., Resnik, B.R. (2003). Responsible Conduct of Research. Oxford University Press.

Shepard, R.J. (2002), Ethics in exercise science research. Sports Med, 32 (3): 169-183.

Tsoka C.E & Mabiza J, (2014), *Urban economy and sources of its efficiency as factors addressing the challenges faced by urban economy:* The case study of Southern African Region. Masters' dissertation, University of South Africa

Vetter, D. (2019), Monte Carlo simulation in a financial strategy for urban development using land value capture, *Journal of Property Investment & Finance*' Volume 37, issue (4), pp. 405-415

Vukeya, V. (2015), The impact of infrastructure investment on economic growth in SA, *Faculty of Commerce, University of Zululand.*

World Economic Forum (2020), The Global Risks Report 2020. Insight Report, 15th edition. In partnership with Marsh & McLennan and Zurich Insurance Group. Available: https://www.weforum.org/reports/the-global-risks-report-2020

Yen, B. T. H, Mulley C, Shearer H, (2018), Announcement, construction, or delivery: When does value uplift occurs for residential properties. Evidence from the Gold Coast Light Rail system in Australia. Land *Use Policy*, Vol 73, pp. 412-422.

ANNEXURE A: ETHICS CLEARANCE CERTIFICATE

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Gethe

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H22/03/06**
PROJECT TITLE	Integrating Land Value Capture into Infrastructure Planning in South Africa
INVESTIGATOR(S)	Mr F Gethe
SCHOOL/DEPARTMENT	Construction Economics & Management/
DATE CONSIDERED	18 March 2022
DECISION OF THE COMMITTEE	Approved Risk Level: Minimal
EXPIRY DATE	21 April 2025

DATE 22 April 2022 **CHAIRPERSON** ______________________ (Professor J Watermeyer)

cc: Supervisor : Professor P Simbanegavi

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to submit an amendment of the protocol to the Committee. **I agree to completion of a regular progress report. For Minimal and Low studies, this is due annually on 31 December. For Medium and High Risk studies, this is due twice annually on 30 June and 31 December.**

______________________ 25 / 04 / 2022
Signature **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

ANNEXURE B: RESEARCH INFORMATION SHEET

Dear Sir / Madam,

My name is Faranani Gethe and I am a Masters student in Building (in the field of property development and management at the University of the Witwatersrand, Johannesburg. As part of my studies, I have to undertake a research project, and I am investigating ways in which Land Value Capture can be effectively used by local government to fund infrastructure projects in SA: Case studies of Johannesburg & Tshwane Municipalities under the supervision of Dr Prisca Simbanegavi. The aim of this research project is to draw guidelines on how Land Value Capture can be effectively used in South Africa by local government to fund infrastructure projects given economic declines and budget constraints experienced.

As part of this project, I would like to invite you to take part in an interview. This activity will involve semi-structured interview via online platform (zoom/Microsoft teams) and will take around 20-30 minutes. With your permission, I would also like to record the interview using a platform's recording function. This recording will be stored in a google drive created specifically for this project and only the researcher will have access to this recording. It will be deleted after 2 years.

There will be no personal costs to you if you participate in this project, you will not receive any direct benefits from participation but there are no disadvantages or penalties if you do not choose to participate or if you withdraw from the study. You may withdraw at any time or not answer any question if you do not want to. The interview will be completely confidential and anonymous as I will not be asking for your name or any identifying information, and the information you give to me will be held securely and not disclosed to anyone else. I will be using a pseudonym (false name) to represent your participation in my final research report. If you experience any distress or discomfort at any point in this process, we will stop the interview or resume another time.

If you have any questions during or afterwards about this research, feel free to contact me on the details listed below. This study will be written up as a research report which will be available online through the university library website. If you wish to receive a summary of this report, I will be happy to send it to you (optional). The data collected from this research project will be stored in a google drive created specifically for this project and will be kept for 2 years. With your permission the data collected from this research project may be used by other researchers in an anonymized format. If you have any concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za

Yours sincerely,
Faranani Gethe

ANNEXURE C: SEMI-STRUCTURED INTERVIEWS QUESTIONS SCHEDULE

Integrating Land Value Capture into infrastructure investment planning in South Africa: Case studies in Johannesburg and Tshwane Municipalities

Semi-Structured Interview Questions:

1. Have you heard of the concept 'Land Value Capture' (LVC)?
2. What do you know about it (LVC)?
3. Do you think municipal policy framework on LVC is important?
4. How can municipal policy framework on LVC is important be improved?
5. Is current legislation suitable for the implementation of LVC?
6. What can be improved on the current legislation guiding LVC to make it suitable for faster implementation of LVC?
7. Do you understand finance ring financing in municipal projects?
8. What is your comment on finance ring fencing?
9. How is the general stakeholder engagement in municipal projects?
10. How is the relationship between projects and beneficiaries?
11. How can this relationship between projects and beneficiaries be improved?
12. Is government getting best price for projects implementation?
13. What do you think about LVC agencies dedication to its implementation?

The end

ANNEXURE D: CONSENT FORM

Integrating Land Value Capture into Infrastructure Investment Planning in South Africa: Case studies in Johannesburg and Tshwane Municipalities.

Faranani Gethe (1828120)

I, ……………………………………..., agree to participate in this research project. The research has been explained to me and I understand what my participation will involve. I agree to the following:

(Please circle the relevant options below).

I agree that my participation will remain anonymous	YES	NO
I agree that the researcher may use anonymous quotes in his research report	YES	NO
I agree that the interview may be audio recorded	YES	NO
I agree that the information I provide may be used anonymously after this project has ended, for academic purposes by other researchers, subject to their own ethics clearance being obtained.	YES	NO

Signature……………………………………………………………

Name of participant ……………………………………………….

Date ………………………………………………………………...