

CONSTRUCTS INFLUENCING FINANCIAL SUSTAINABILITY OF LOCAL GOVERNMENT

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Abstract

The 1996 Constitution of South Africa requires municipalities to structure and manage their administration, budgeting and planning processes in order to give priority to the communities' basic needs so that they can promote their social and economic development. Municipal services must be provided in a manner that is conducive to the prudent, economic, efficient and effective use of available resources, and for the improvement of standards over time. The services must be sustainable; financially as well as environmentally and they should also be reviewed regularly with the intention of upgrading, extending and improving them where necessary. Most municipalities are in financial distress despite the government's attempt to cushion them through equitable shares and grants. This study sought to understand the relationship amongst various constructs, namely public participation, governance, intergovernmental relations, infrastructure management, as well as customer care and it also intended to highlight their influence on municipal financial sustainability. The study applied a quantitative method in order to understand the behaviour of these constructs. A total of 122 officials within Limpopo municipalities' middle and top management officials responded to the questionnaire. The study's data was collected through an electronic questionnaire. The study used statistical methods to analyse data between the dependant and the independent variables. It was found that there is a reciprocal relationship between the constructs and financial sustainability. It was learnt that the constructs are interrelated and each one has a direct or indirect influence on the municipality's financial sustainability. The study focused on the constructs and how they influence financial sustainability. It is recommended that there must be a further study on why the current patterns exist in order to dichotomise the source/s of financial distress and in order to find new ways of carrying out municipal business.

Keywords: Financial sustainability, public participation, governance, intergovernmental relations, infrastructure management, customer care

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List of acronyms

AGSA	Auditor General South Africa
AU	African Union Commission
CDWs -	Community Development Workers
CRM -	Customer Relationship Management
CzRM -	Citizen Relationship Management
DPME	Department of Performance, Monitoring and Evaluation
IGR -	Intergovernmental Relations
IDP -	Integrated Development Plan
LPT -	Limpopo Provincial Treasury
NDP	National Development Plan
MTSF	Medium Term Strategic Framework
NPFPP-	National Policy Framework on Public Participation
OECD	Organisation for Economic Co-operation and Development
PP -	Public Participation
UN	United Nations

Chapter 1: Introduction

1.1 Introduction

Municipalities in South Africa are facing financial distress and they are struggling to provide basic services to local communities. These financial problems that are being faced by the municipalities, “start mainly with inadequate budget planning and lack of fiscal discipline that cause these municipalities’ expenses to exceed their income, resulting in operating losses” (Ratings Afrika, 2018:1). This situation brings to question the financial sustainability of most of the struggling municipalities and their ability to provide basic services over time.

The Constitution of the Republic of South Africa (1996: s153) states that a municipality must structure and manage its administration, budgeting and planning processes in order to give priority to the basic needs of the community, as well as to promote the social and economic development of the community. Schedule 4, Part B of the Constitution lists the following as the functions of municipalities: reduction and management of air pollution, building regulations, child care facilities, electricity and gas reticulation, firefighting services, local tourism, municipal airports, municipal planning, municipal health services, municipal public transport, storm water management systems in built up areas, water and sanitation services limited to portable water supply systems, domestic waste-water and sewage disposal systems, trading regulations and harbours excluding the regulation of international and national shipping as well as matters related thereto.

The National Development Plan, Vision 2030 highlights the need for a capable and developmental state. One of the requirements of the Local Government: Municipal Systems Act (2000: s73) is that municipal services must be provided in a manner that is conducive to the prudent, economic, efficient and effective use of available resources; and the improvement of standards of quality over time. This Act further provides that the services must be financially and environmentally sustainable, and they must be regularly reviewed with a view to upgrade, extend and improve the services where it is necessary to do so.

The Municipal Finance Management Act No 56 of 2003 (2003: s21) states that when the municipality executes its constitutional mandate, a budget must be prepared and it must take into account the municipality’s integrated development plan, the national budget, the relevant provincial budget, as well as the national government’s fiscal and macro-economic policy. The Act further provides that the municipality must consider any views from the local community, the National Treasury, the relevant provincial treasury and any other provincial or national organs of state or municipalities which made submissions on the budget (Municipal Finance Management Act No. 56, 2003: s23). The municipality’s expenditure may only be funded from revenues that can be realistically anticipated to be collected, cash backed accumulated funds from previous years that are not committed for other purposes and from borrowing funds only for the capital budget (Municipal Finance Management Act, 2003: s23).

A report by the National Treasury on the “State of Local Government Finances” revealed that, 49.8% of 257 municipalities had financial problems for the financial year ending 30 June 2017 (National Treasury, 2018). According to the Auditor General South Africa (AGSA), there was a persistent downward trend in the municipalities’ audit outcomes where only 56% of the municipalities received unqualified audits; with a further 16% of municipalities having negative

cash flow balances for the year ending 30 June 2017 (AGSA, 2018). AGSA (2018) also noted that accountability is critical, and this means that municipal leaders are answerable to local communities and must therefore take responsibility for their actions, decisions and policies. The AGSA (2018) further indicated that various role players have been slow in implementing the Audit General's recommendations and in many instances, they have even blatantly disregarded them. The recent case of the looting of the VBS Mutual Bank has brought to light the reckless and illegal investment decisions taken by some municipalities. A total number of 14 municipalities lost R1.5bn in deposits made to the VBS Mutual Bank in contravention with municipal regulations (Mailovich, 2019).

The National Treasury (2017) observed that historically, municipalities did not provide enough budgets for repairing, managing and maintaining assets; and they were riddled with operational inefficiencies, incompetence and poor governance which had a direct impact on the financial health of the municipalities. In the 2019 budget review document, the National Treasury further identified that the problems in revenue management are the colossal cause of financial troubles in municipalities. The review document further highlighted that the biggest portion of municipal debt that contributed to revenue challenges can be attributed to the following - ranked in descending order (National Treasury, 2019):

1. Households,
2. Commercial customers, and
3. Government.

1.1.1 What is meant by financial sustainability?

There are various definitions of financial sustainability. According to Wällstedt, Grossi and Almqvist (2014), financial sustainability entails the maintenance of commitments and the need to counter negative revenue trends with careful considerations and reactive expenditure measures, and this is thus seen as the ability to stay out of fiscal and financial distress.

Hajilou, Mirehei, Amirian and Pilehvar (2018: 84) define financial sustainability as, "a type of financial condition that allows a government to continue service provision now and in the future without introducing disruptive revenue or expenditure patterns". Zabolotnyy and Wasilewski (2019: 1) define the financial sustainability of a firm as, "the ability to generate value for owners and provide continuity (the concept of continuity refers to the going concern principle of accounting) of operations in the long-term, using an optimal combination of investments and sources of financing". In this research, financial sustainability is viewed as the long-term ability of a municipality to accumulate and maintain surplus funds or cash-backed reserves to fund current and reasonably projected future operational and capital expenditure for improved service delivery.

1.1.2 Introduction of the study

The population of interest for this study are Limpopo Province Municipalities. The province has 27 municipalities made up of five district municipalities and 22 local municipalities.

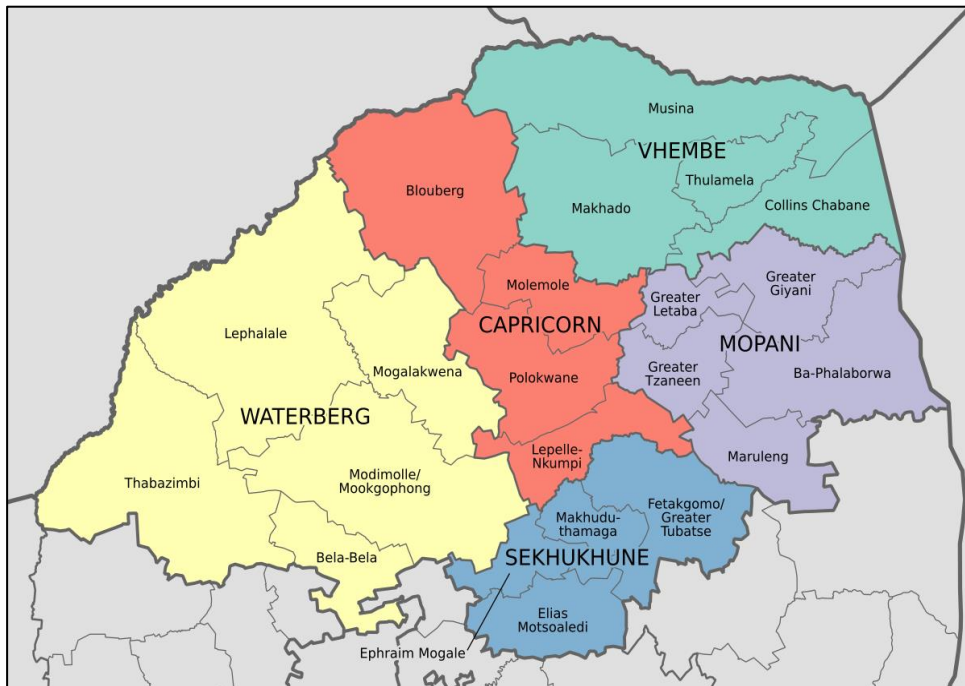


Figure 1-1: Map of Limpopo Province municipalities

Source: https://en.wikipedia.org/wiki/List_of_municipalities_in_Limpopo

The four out of 5 district municipalities, namely, Capricorn, Mopani, Sekhukhune and Vhembe district municipalities are water authorities with the exception of the Waterberg district municipality. Water authorities' municipalities have a legal authority to provide water services to all local municipalities within their district and receive water related grants directly from National Government. Waterberg district municipality is the only district municipality within the province where this status is with the local municipalities. All other local municipalities within the province are only water service providers, implying that they provide the water service on behalf of their district municipalities who are water authorities. All municipalities within the province were included in the study. The next section sets out the ontology and epistemology to be able to determine the design of the research.

1.1.3 Ontology

Ontology is the researcher's conventions about the truth of the world, its existence and the constructs that can be known (Rehman & Alharthi, 2016). Ontology helps to conceptualise the form and nature of reality and what the researcher believes can be known about that reality by examining the researcher's underlying belief system about the nature of being and existence (Kivunja & Kuyini, 2017). The researcher's perception of the worldview can either be objective or subjective (McManus, Mulhall, Ragab & Arisha, 2017). Kivunja and Kuyini (2017) state that, objectivism requires that as far as possible, the researcher, should remain distanced from what the researcher is studying so that the findings of the research depend on the nature of the data rather than on the researcher's preferences, personality, beliefs and values. On the other hand,

Don-Solomon and Eke (2018) state that subjectivism rejects absolute facts and suggests that facts are based on perception rather than the objective truth.

This research applied the objectivist ontology. There is various legislation that instruct municipalities on the execution of their mandates. Guidelines and circulars are provided by the government's provincial and national spheres in order to provide clarity on the implementation of laws. The municipalities' financial health has been deteriorating over the years despite the national government's cushion of equitable share and conditional grants.

1.1.4 Epistemology

Patel (2015) explains that epistemology answers the questions of what and how the researcher can know about the reality. According to Kivunja and Kuyini (2017), epistemology involves the essence of intelligence, ways and how it can be obtained and transmitted to other human beings. It focuses on the complexity of human awareness and understanding that a researcher or knower can potentially learn in order to expand, broaden and deepen understanding in the scientific area of research (Kivunja & Kuyini, 2017).

This research applied objectivist epistemology. Objectivist epistemology relies on facts that are obtained through independent research (Kivunja & Kuyini, 2017). According to McManus *et al.* (2017), the quantitative methodology is relevant for a researcher who intends to define or explain the occurrences of constructs in a manner that can be measured or repeated and yet they can obtain similar results.

Yilmaz (2013: 312) asserts that quantitative research, "is informed by objectivist epistemology and seeks to develop explanatory universal laws in social behaviours by statistically measuring what it assumes to be a static reality. It emphasises measurement and analysis of causal relationships between isolated variables within a framework".

The National Treasury (2014), in its State of Local Government Finances and Financial Management Report noted that it is a concern that municipalities are dependent on grants to finance capital expenditure. The National Treasury (2014) further acknowledged that this is because municipalities have lower internally generated funds, which means that fewer infrastructure projects are funded from the municipalities' own revenue sources. A high reliance on grant funding for the capital programme impedes local economic development and places current economic infrastructure at risk (National Treasury, 2014).

According to Statistics South Africa (StatsSA) (2018), the largest contributor to municipal revenue for the year ended 30 June 2017 was 'grants and subsidies received' (29,4%), followed by 'electricity sales' (28,8%), 'property rates received' (14,9%), 'other revenue' (11,6%) (which consists of fines, licences and permits, public contributions and donations, etc.), 'water sales' (9,0%), 'sewerage and sanitation charges' (3,6%), and 'refuse removal charges' (2,8%).

In the 2018 state of local government finances and financial management report, The National Treasury (2018) identified the following as the state of affairs in municipalities:

1. Persistent cash flow problems to cover operational costs;
2. Decrease in budget overspending on operational costs;
3. Expenditure on capital budgets are persistently low;
4. Substantial increase in unpaid debts by consumers;

5. Total creditors outstanding remains very high: Asset management spending remains inadequate;
6. Recorded loss of water and electricity remain high;
7. Some municipal councils approve budgets that are not funded;
8. Municipal audit outcomes continue to decline.

It is based on this dependency on national transfers and on the consistent decline in the municipality's financial health that the researcher intended to understand how the identified constructs' influence the financial sustainability of the municipalities.

1.1.5 Axiology

Killam (2013) posits that axiology addresses the ethical behaviour in which the researcher's purpose of enquiry needs to be balanced with what the researcher values and other ethical considerations. Kivunja and Kuyini (2017) support that axiology refers to the ethical issues which define, assess and appreciate the concepts of right and wrong behaviour when conducting a study. It considers the value attributed to the different parts of research, the participants, the data and the audience to which the results of the research will be reported to. The researcher's ethical considerations are discussed in Section 1.7 and in more detail in Chapter 3.

1.2 Research problem

The 2011 Local Government Budgets and Expenditure Review document by the National Treasury reported that rural municipalities are concentrated in the KwaZulu-Natal, Eastern Cape, Northern Cape and Limpopo Provinces. The review was based on the context within which municipalities operated and used variables such as the number of poor households, the proportion of households with access to services (water, sanitation and electricity), and information on capital and operating budgets (National Treasury, 2011).

The National Treasury (2011) further observed that rural municipalities have a high dependency on equitable shares and conditional grants from the national government.

In the 2018 State of Local Government Finances and Financial Management Report, The National Treasury (2018) reported that the following are amongst the other issues that influence the financial health of the municipality:

1. Reliance on infrastructure grant;
2. Loss of water and electricity;
3. Limited provision of budgets for repairing, managing and maintaining assets;
4. Conditional grants not being spent as planned, and
5. Approval of unfunded budgets.

Section 135 of the Municipal Finance Management Act (MFMA) No. 56 of 2003 states that the primary responsibility to avoid, identify and resolve financial problems in a municipality rests with the municipality itself. According to the National Treasury (2018), financial distress in the local government's context is persistent failure of a municipality to sufficiently fund the cost of services that must be provided within its boundary as required and as obligated by the Constitution. The National Treasury (2020) reported that 63.4% of 257 municipalities faced financial troubles by the end of the 2018/19 financial year.

The results of Limpopo municipalities, which are the population of interest for this study, is also not healthy. National Treasury (2020) observed that 62.9 % of 27 Limpopo municipalities (**Appendix D**) were in financial distress. Limpopo municipalities audit outcomes attained slight improvement over a period of five years (**Appendix E**). Only one of the municipalities was able to achieve an unqualified audit opinion without matters of emphasis in the 2018/19 municipal financial year. Limpopo Provincial Treasury (2020) determined that eight out of 27 municipalities' liquidity ratio was above 1:1, which implied that there was sufficient cash and investments to pay creditors in a short to medium term (**Appendix F**). This performance does not give confidence in the capacity of the Limpopo Municipalities to achieve the national development agenda of the National Development Plan. The aim of this study is to examine whether the constructs identified have an impact on this financial state of affairs through compliance with the relevant laws and regulations, technology management and innovation.

Laws and regulation: The Constitution of the Republic of South Africa, 1996, Municipal Systems Act, No. 32 of 2000, Local Government: Municipal Structures Act, No. 117 of 1998, and Municipal Finance Management Act No. 56 of 2003, are key pieces of legislation that underpin the local government sphere, and are extensively referenced in the study.

Management of Technology and innovation: Governments are confronted with a variety of interconnected problems that place a strain on public resources and necessitate innovative solutions (OECD, 2019). Innovation is needed to solve new, dynamic social problems and respond to the citizens of the future (Byrne, Cunningham, Charité, D and Kluge Foss, C. 2018). Evans, Aulich, Howard, Peterson, and Reid (2018) posit that public benefit innovation is the design and development of new goods, services, and delivery methods in partnership with people and stakeholders, resulting in significant socio - economic benefits for communities. Many people find current methods of participation unsuitable or cumbersome, with digital platforms designed for planning participation reflecting conventional methods rather than exploiting the possibilities that technology provides, and seldom going beyond a one-way provision of information (Wilson, Tewdwr-Jones and Comber, 2017). Artificial intelligence, robotics, and the Internet of Things are driving the fourth industrial revolution, which is a convergence of electronic, physical, and biological technologies (Marwala, 2020). The study includes examination of the extent to which technology is used and managed in innovative methods of public participation, governance structures and maintenance of infrastructure. The objectives of this study are further explained in the next section.

1.3 Aim and objectives

The problem that supports this research study is that the financial sustainability of municipalities was declining despite the national government's allocation of equitable shares to subsidise the cost of providing free basic services and infrastructure grants to municipalities in order to service poor households (National Treasury, 2018).

Based on this problem, the aim of this research is to quantitatively examine the effect of institutional governance structures, intergovernmental relations, maintenance of infrastructure and customer relations constructs on municipalities' financial sustainability.

The following study objectives were identified:

- i. To understand the influence of public participation in the development of municipal infrastructure

- ii. To determine the relationship between the effective institutional governance structures and financial sustainability.
- iii. To determine the correlation between intergovernmental relations and financial sustainability.
- iv. To determine whether maintenance of service delivery infrastructure results in financial sustainability.
- v. To determine whether good customer care improves financial sustainability.

1.3.1 Null hypotheses

The table below shows the null hypothesis versus the alternative hypothesis which were to be tested in order to confirm the achievement of each objective.

Table 1-1: Hypotheses

Research objectives	Null hypothesis	Alternate hypothesis
To understand the influence of public participation in the development of municipal infrastructure.	H1 _o : Public participation has no positive influence in the development of municipal infrastructure.	H1: Public participation has a positive influence in the development of municipal infrastructure.
To determine the relationship between the effective municipal governance structures and financial sustainability.	H2 _o : Poor institutional governance does not erode financial sustainability over a period of time.	H2: Poor institutional governance erodes financial sustainability over a period of time.
To determine the correlation between intergovernmental relations and financial sustainability.	H3 _o : Ineffective intergovernmental relations do not lead to financial unsustainability.	H3: Ineffective intergovernmental relations lead to financial unsustainability.
To determine whether the maintenance of service delivery infrastructure results in financial sustainability.	H4 _o : Maintenance of service delivery infrastructure does not have a positive influence on financial sustainability.	H4: Maintenance of service delivery infrastructure has a positive influence on financial sustainability.
To determine whether good customer care improves financial sustainability.	H5 _o : Good customer care does not have a positive relationship with financial sustainability.	H5: Good customer care has a positive relationship with financial sustainability.

1.4 Researching philosophy

The research adopted a quantitative approach. Yilmaz (2013) defines the approach as research that explains phenomena according to numerical data which is analysed by means of mathematically based methods such as statistics. According to Abdulai and Owusu-Ansah (2014), a quantitative approach intends to develop a theory that explains occurrences by choosing fixed concepts and variables prior to conducting the study.

1.4.1 Research paradigm

The paradigm of this study is based on positivism. According to Intgrty (2016), the positivist paradigm's true knowledge is based on the experience of senses and it can be obtained by observation and experiments. Intgrty (2016) further articulates that positivism systematises the knowledge generation process with the help of quantification, which is essential in enhancing precision in the description of parameters and the discernment of the relationship among them.

1.4.2 Research type

The type of research adopted in this study is a descriptive method. Descriptive research is an appropriate choice when the research aims to identify characteristics, frequencies, trends and categories (McCombes, 2019).

1.5 Research design and methodology

1.5.1 Research design

According to McCombes (2019), the research design is a framework for planning a research and answering the research questions. The nature of the research was descriptive in that it aims at describing the relationship of identified variables to the financial sustainability of municipalities.

The researcher reviewed literature, and also collected data through a questionnaire that was sent to the identified respondents. This data was analysed, compared to the literature and conclusions were drawn.

1.5.2 Conceptual Framework

Jabareen (2009) defines a conceptual framework as a network, or "a plane," of interlinked concepts that provide a comprehensive understanding of a phenomenon or phenomena. Regoniel (2015) concurs that a conceptual framework is not merely a collection of concepts but, rather, a construct in which each concept plays an integral role. Imenda (2014) suggests that a conceptual framework is an end result of bringing together a number of related concepts to explain or predict a given event, or to give a broader understanding of the phenomenon of interest or of a research problem.

The research intended to understand the role of variables of public participation, infrastructure management, governance, intergovernmental relations and customer care in municipal financial sustainability. Figure 1 below depicts these variables that will be discussed in the next paragraphs.

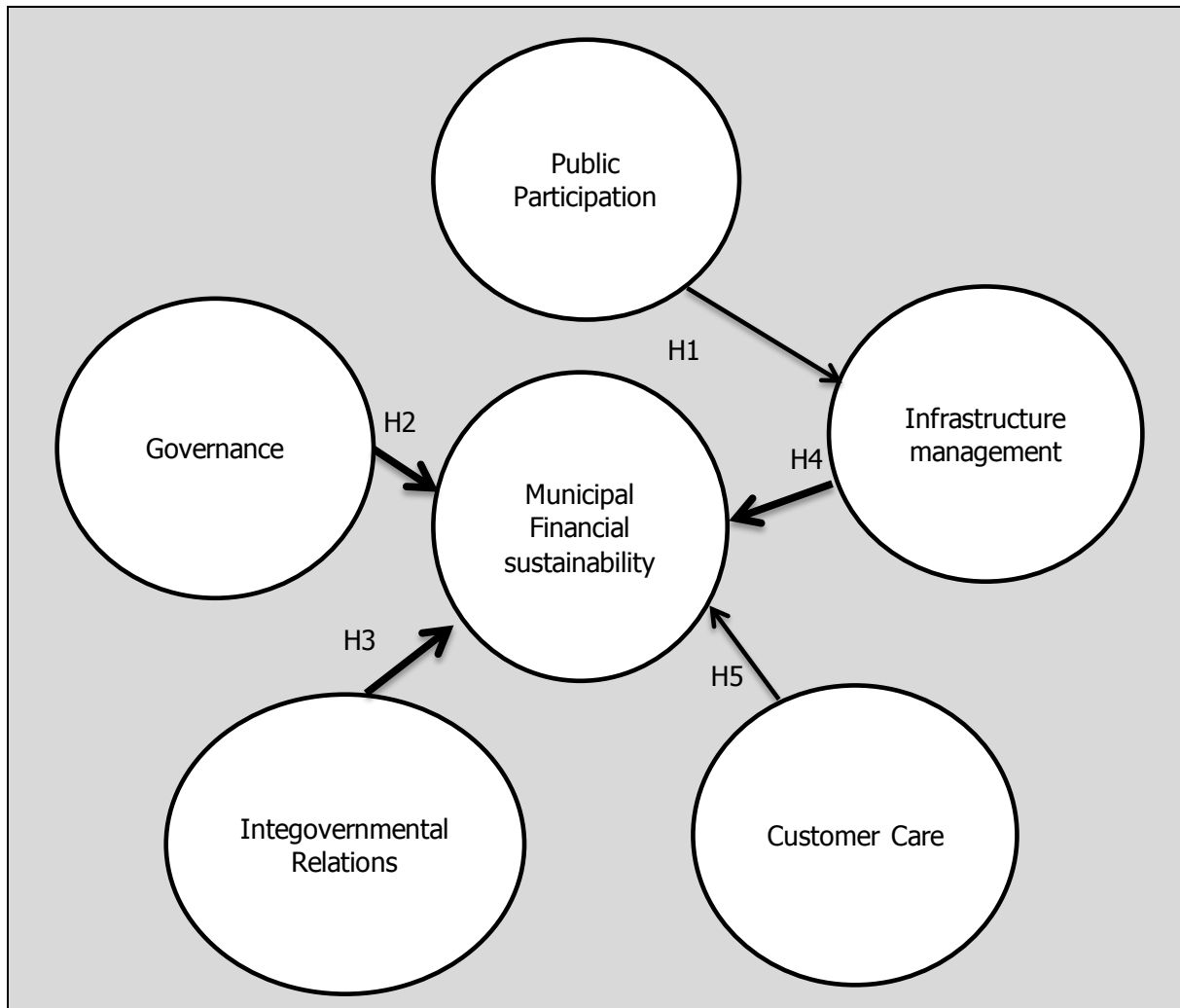


Figure 1-2: Conceptual Framework

Legend – “H” indicates Hypothesis (Source: Researcher)

Regoniel (2015) indicates that a conceptual framework represents the researcher’s synthesis of literature on how to explain a phenomenon. It maps out the actions required in the course of the study given the researcher’s previous knowledge of other researchers’ point of view and his observations on the subject of research.

The researcher applied the deductive approach. According to Wilson (2014), a deductive approach is concerned with developing a hypothesis (or hypotheses) based on existing theory, and then designing a research strategy to test the hypothesis. The conceptual framework was supported by the propositional relationship between the identified concepts that are explained in the following paragraphs:

1.5.2.1 Public participation and infrastructure development

Section 16 of the Municipal Systems Act, No. 32 of 2000 (s16:37) requires that, “a municipality must develop a culture of municipal governance that complements formal representative government with a system of participatory governance”. The Act further requires councillors and municipal staff to promote community contribution in the municipal activities (Local Government: Municipal Systems Act, No 32 of 2000, 2000: s16).

Hypothesis 1: The effectiveness and efficiency of public participation will have a positive impact on the development of infrastructure.

1.5.2.2 Governance structures and financial sustainability

Each municipality must have a council (Local Government: Municipal Structures Act, No. 117 of 1998, 1998: s18). The council takes all the municipality's decisions. Some of the legislative authorities of council are to prepare, approve and implement its budgets (Local Government: Municipal Systems Act, No. 32 of 2000, 2000: s11). The former Minister of Finance reported to the parliament that 112 out of 257 municipalities adopted unfunded budgets for the 2017/18 financial year (Nene, 2018). Unfunded budgets mean that municipalities would not have sufficient funds to cover planned expenses in that budget year.

Hypothesis 2: Poor institutional governance structures erode financial sustainability over a period of time.

1.5.2.3 Intergovernmental relations and financial sustainability

The objective of intergovernmental legislation is to establish a framework for the national, provincial and local governments in order to; promote and facilitate intergovernmental relations, facilitate the settlement of intergovernmental disputes and provide for matters connected therewith (Intergovernmental Relations Framework Act No 13 of 2005, 2005: s4). Fiscal and administrative processes also activate intergovernmental relations. This refers to the processes through which the different levels of government share revenue and other resources. The sharing of resources is accompanied by special conditions that must be satisfied as prerequisites for assistance (Geldenhuys, 2005).

Hypothesis 3: Ineffective Intergovernmental relations lead to financial unsustainability.

1.5.2.4 Infrastructure management and financial sustainability

Municipalities need to secure the health of their asset base which includes but is not limited to the municipality's revenue generating assets. This can be done by increasing spending on repairs as well as maintenance and expediting spending on capital projects that are funded by conditional grants (National Treasury, MFMA Circular 51, 2010).

Hypothesis 4: Infrastructure maintenance has a positive impact on financial sustainability.

1.5.2.5 Customer care and financial sustainability

Legislation puts an obligation on the municipalities to establish a sound customer management system that aims to create a positive and reciprocal relationship between the persons that are liable for payments of services and the municipality (Local Government: Municipal Systems Act, No. 32 of 2000, 2000).

Hypothesis 5: There is a positive relationship between good customer care and financial sustainability.

1.5.3 Literature review

The researcher reviewed the concepts that were identified in the conceptual framework in order to determine the available theory and what is known. This is covered in more detail in Chapter 2.

1.5.4 Data collection

A survey design was used as a method for data collection. Hale (2018) refers to a survey method as one of the three descriptive methods which requires participants to answer questions that are administered through interviews or questionnaires. The following paragraphs explain; the sample from which the data was obtained, the data collection technique, questionnaire design, and analysis.

1.5.5 Sampling Design

Mukherjee (2017) defines a sample design as the system analysis procedure that is divided into distinct charts for the purposes of acquiring a sample from a specified population. The researcher's sampling design is discussed below.

1.5.5.1 The target population

The target population for this research was municipalities within Limpopo Province.

1.5.5.2 Sample frame

The target sample frame consisted of senior and middle management officials within the 27 municipalities of the Limpopo Province.

1.5.5.3 Sampling size

Theintactone (2019) defines a sample as a subset containing the characteristics of a larger population. A sample size is a subset that is used to represent the population.

Sharma (1997) notes that a good sample is economical in terms of energy, time, money, and from a point of view perspective. The author argues that the subjects of a good sample are easily approachable. The research tools can be easily administered on them and data can be easily collected (Sharma, 1997). Theintactone (2019) confirms that a good sample should be oriented to the research objectives, be fitted to the survey conditions, be truly representative in character and should be adequately proportional.

The sample size for this research consisted of a sample of 122 respondents that were identified from the sample frame. The identified individuals are those at a decision-making level and are directly or indirectly involved in the planning and implementation of municipal strategic objectives of the municipality.

1.5.5.4 Sampling method

The researcher applied a judgement or purposive sampling technique. The judgment sampling technique is the deliberate choice of a participant due to the qualities that the participant possesses (Etikan, Musa & Alkassim, 2016). Maxwell (1996 as cited in Taherdoost (2016: 23), defines purposive or judgmental sampling as, "a strategy in which particular settings persons or events are selected deliberately in order to provide important information that cannot be obtained from other choices".

The researcher used the sample of executive management and middle management due to their level of responsibility that makes them knowledgeable of the subject matter.

1.5.6 Questionnaire design

The researcher developed a measurement instrument in order to explore the existing patterns. The measurement instrument consisted of six sections of which five were in line with the hypotheses and the one section was for general information. A four-point scale method was used with the following elements: 1=Not applicable; 2=Below Average; 3=Average; 4=Above Average. A not applicable scale was used in order to determine if the respondents' view certain processes as not being applied in their municipality.

1.5.7 Data collection technique

The data was collected through the use of a questionnaire which was sent through emails and social media (WhatsApp messenger) to the participants.

1.5.8 Data analysis

Data was read and behaviour, concepts as well as categories were highlighted. The SPSS statistical software was used in order to determine the degree of relationship between the dependent variable and the independent variables.

1.6 Limitations of the study

According to Ross and Bibler Zaidi (2019: 261), "study limitations represent weaknesses within a research design that may influence outcomes and conclusions of the research".

The major limitation of the study was that municipalities experience a high staff turnover rate at management level, and this resulted in that some of the identified sample individuals were not available to answer the questionnaire. The researcher therefore had to identify other key officials who are one level below the strategic management level but were able to provide the required information. The detailed analysis on limitations is provided in Chapter 3.

1.7 Ethical considerations

Resnik (2015) contends that since research often involves a great deal of cooperation and coordination among many different people in different disciplines and institutions, the ethical standards must promote the values that are essential for collaborative work such as trust, accountability, mutual respect and fairness.

The researcher requested permission from the Da Vinci Institute's Ethical Committee. Permission was also requested from the head of department of the Limpopo Provincial Treasury in order to request for permission to conduct the study with the identified stakeholders and also to solicit for the use of the department's email as a communication mode.

The researcher signed a declaration that the identity of the respondents would be protected and that all the gathered information would be for the sole purpose of this study. The work was performed by the researcher and where relevant, it was referenced accordingly. Detailed analysis on ethical considerations is provided in Chapter 3.

1.8 Outline of the study

The study consists of six chapters which are outlined as follows:

Chapter 1: Introduction and background to the study

This chapter provides introduction to the study. It outlines the research problem, objectives and the conceptual framework.

Chapter 2: Literature review and application of theory

Chapter two consists of the literature review, which is presented in line with the conceptual framework. The areas covered in the review are five sections namely, public participation, governance structures, intergovernmental relations, infrastructure management and customer care.

Chapter 3: Research methodology

Research and methodology chapter details the research paradigm types and design. It provides the justification of the paradigm and design selected. It expands on the methodology, sample used, data collection methods, limitations and the ethical considerations.

Chapter 4: Findings

This chapter shows the results of the data collected through an online survey.

Chapter 5: Data analysis and results

This chapter presents the analysis of data through the use of IBM SPSS Statistics Version 26 statistical analysis tool.

Chapter 6: Summary, conclusions and recommendations

This chapter provides conclusion on the study, lessons learnt and future recommended studies.

1.9 Conclusion

This chapter outlines the introduction and the summary of the dissertation by highlighting the municipalities' key constructs that influence financial sustainability.

Chapter 2 provides a literature review on the variables that influence the municipalities' financial viability and it also highlights the theoretical framework that was used in the research.

Chapter 2:

Literature review

2.1 Introduction

Chapter 1 detailed the problem statement, as well as the aims and objectives of the study. The conceptual framework was also introduced. According to Imenda (2014), a conceptual framework may be defined as an end result of bringing together a number of related concepts in order to explain or predict a given event, or to give a broader understanding of the phenomenon of interest or a research problem. Imenda (2014) further posits that the process of arriving at a conceptual framework is akin to an inductive process whereby small individual pieces (in this case, concepts) are joined to show a bigger map of possible relationships.

In this chapter, the theoretical framework underpinning the study is explained, a background to financial sustainability is provided after which the researcher presents the literature review on the influence of constructs, namely, public participation on the development of infrastructure, infrastructure management on financial sustainability, governance structures on financial sustainability, as well as intergovernmental relations and customer care influence on the municipality's financial sustainability. The literature review was guided by the following objectives:

1. To understand the influence of public participation in the development of municipal infrastructure;
2. To determine the relationship between the effective institutional governance structures and financial sustainability;
3. To determine the correlation between intergovernmental relations and financial sustainability;
4. To determine whether maintenance of service delivery infrastructure results in financial sustainability;
5. To determine whether good customer care improves financial sustainability.

2.2 Theoretical Framework

This section delves into the theoretical considerations and models surrounding the constructs in order to show some of the research problem's underlying complexity. The study underpins the theoretical framework of systems thinking. The influence of identified constructs on financial sustainability is explored using the systems theory of management.

Systems thinking is a collection of synergistic analytical skills used to enhance the capacity of systems to identify and understand, anticipate and adjust their actions in order to achieve the desired results (Arnold and Wade, 2015). The theoretical framework is based on the Da Vinci methodology described in the next subsections.

2.2.1 Considerations concerning system thinking and their interrelationships

A system is a series of different independent parts that function together in an integrated manner to achieve a goal (Chikere and Nokwe, 2015). It is the product of the interaction of its parts, not the sum of its parts. According to Da Vinci (2013), a system's assemblage must fulfil two conditions: each component must communicate with at least one other part, and the

assemblage must exhibit emerging properties that are not exhibited by either of its parts and would be diminished if any of the parts is removed. Municipalities function in constant exchange with their environment, with many dynamic connections and inter-relationships within their jurisdictions (Chikere and Nokwe, 2015). The Da Vinci (2013) posits that the principles of processes and how to model and operate organizations as systems is focused on the assumption that the existence of the subsystems within an organization influences innovation, and that the effect, performance, and failure of that innovation can often be traced back to the actions of the organization as a whole. Figure 2-1 depicts basic considerations concerning systems thinking and their interrelationships in a municipal environment.

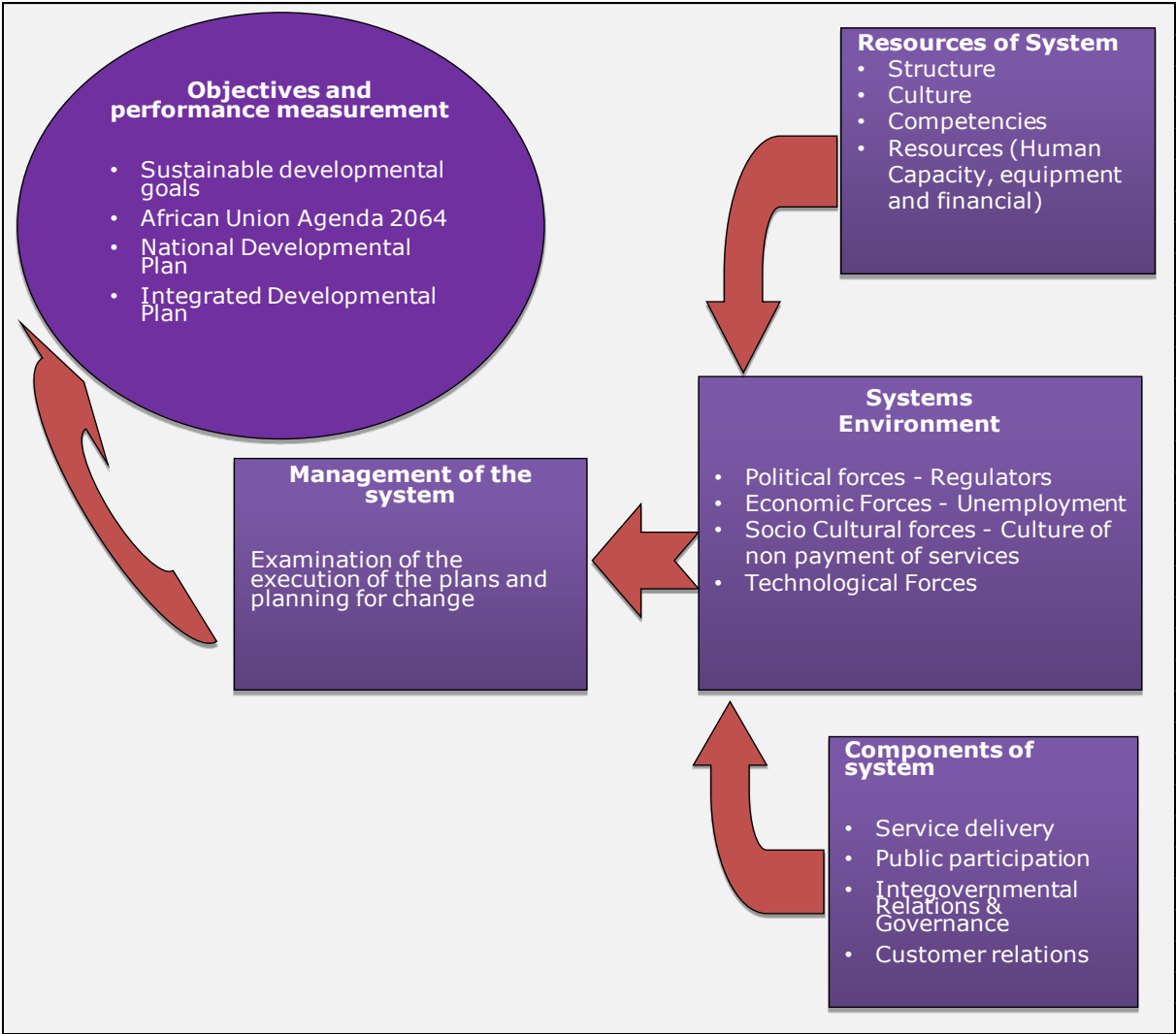


Figure 2-1: Considerations concerning system thinking and their interrelationships

Source: Adapted from Da Vinci Institute for Technology Management (2013)

Objectives

The IDP, NDP, Africa Agenda 2063, and the sustainable developmental targets contain municipal priorities. In order to assess the overall system's performance, goals must be specified in terms of recognisable and repeatable operations. Section 2.3 offers insight into the details of municipal goals and how they are financed. The section further highlights the importance of financial sustainability for the purpose of funding municipal goals.

Environment

According to The Da Vinci Institute (2013), the environment's characteristics are that the machine can do very little, if anything, about the environment's characteristics or actions. Second, the environment must include everything that influences, at least in part, how the system operates. The municipalities as a system have little influence on national and provincial stakeholders' characteristics or behaviours.

Resources

Resources refers to all of the things that the system can alter and use to its advantage. Municipalities manage the structure, the human resources they employ, the training they offer, and the funds they collect from consumers and other stakeholders.

Components

All tasks that contribute to the achievement of the system's goals are referred to as components (Da Vinci Institute, 2013). This study focuses on the following tasks that municipalities must perform in order to achieve their goals.

Public participation: Municipalities use public engagement to collect community needs, input on their plans and provide feedback on performance.

Service delivery: municipalities develop and maintain the infrastructure in order to provide basic services.

Customer relations: municipalities participate in a range of activities to answer consumers' concerns and grievances in order to strengthen their relationship with them and their desire to pay for their services.

Intergovernmental relations & Governance: Municipalities conduct stakeholder engagements during planning phase preparation to strengthen intergovernmental relations, project planning, and execution.

The constructs to be examined were chosen based on these components and the importance of financial sustainability in order to finance the system's goals.

2.2.2 Innovative Decision thinking

The Da Vinci Methodology is based on Innovative Decision Thinking as depicted in Figure 2-2.

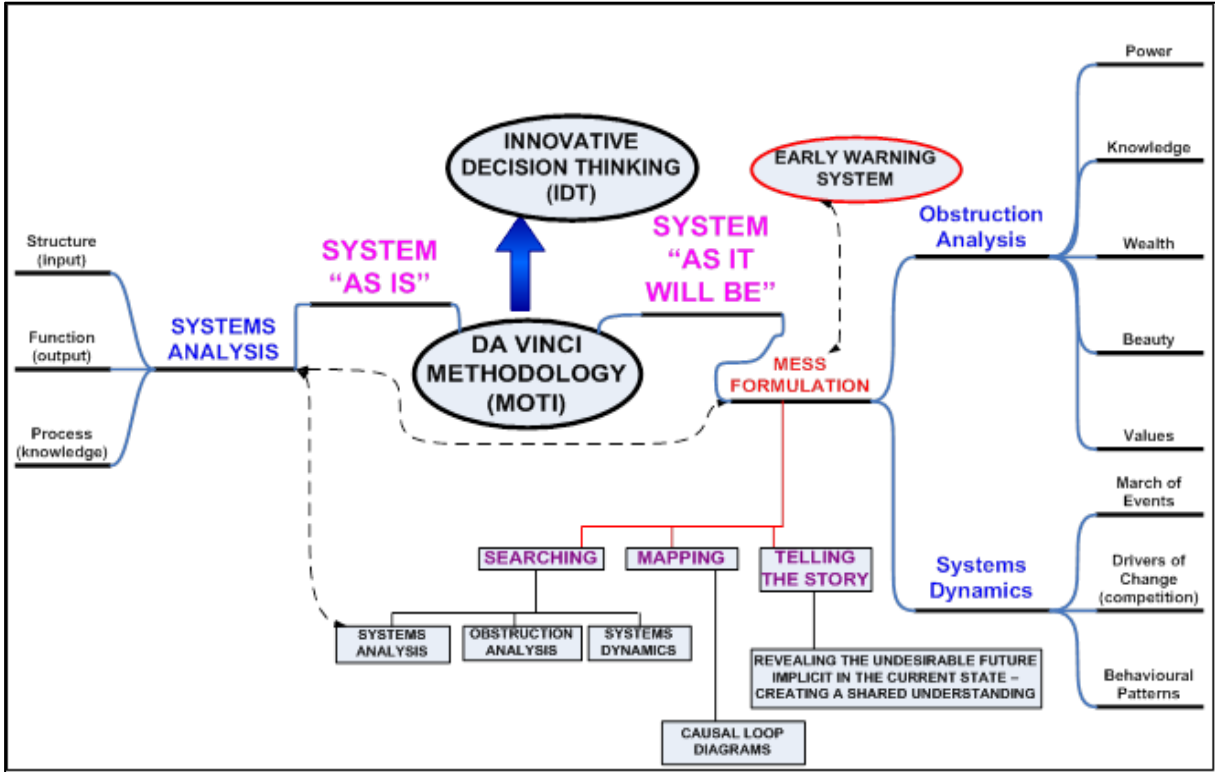


Figure 2-2: Innovative Decision Thinking

Source: Da Vinci Institute for Technology Management (2013)

Design is an innovative act of systems thinking that tries to estimate how various sets of behaviour patterns will serve particular goals (Pourdehnad, Wexler and Wilson, n.n). Figure 2-2 reflects the different problems that need to be resolved in an effort to obtain a clearer understanding of the "AS IS" and "AS IT WILL BE" states of the system. Almost all of the barriers that hinder a system designer from fully comprehending the current reality are self-imposed. These impediments set us up, shape our world, and map our course for the future. They are in charge of preserving the existing state of the systems, which makes moving to the ideal future state challenging. The critical element of design innovative decision thinking is mess formulation which is explained below.

Mess formulation

Mess formulation is the future that is implied in the system's present actions and the implications of the current state of affairs (The Da Vinci Institute for Technology Management (2013). There are three phases to mess formulation, namely, searching, mapping, and telling a story.

Phase 1: The searching phase

Step 1: Systems analysis

The structure of the system (as input), the operation of the system (as output), and the method are the three basic elements of systems analysis (as knowledge). Table 2-1 shows that systems analysis helps the designer to obtain a macro view of the existing systems.

Table 2-1: Systems Analysis

ELEMENT	SYSTEM	ENVIRONMENT
STRUCTURE (Input)	Major components and their relationships	Staff, Unions, Council, Suppliers, Traditional authorities, Departments, Business community, Regulators, other interest groups
FUNCTION (Output)	Products/markets Provision of basic services Community access	Market Potential Competitive Analysis
PROCESS (Knowledge)	Core technology and competencies Institutional mechanisms Citizens capacity to participate in municipal affairs stakeholder inclusivity Resources Available (Human, technological and financial)	Industry standard Compliance with Laws and regulations

Source: Adapted from Da Vinci Institute for Technology Management (2013)

Step 2: Obstruction Analysis

The researcher attempts to locate where the social system's power, intellect, wealth, attractiveness, and value dimensions are malfunctioning during the obstruction analysis phase.

Table 2-2: Obstruction analysis

	FUNCTION	STRUCTURE	PROCESS
Power	Potency of the output in meeting the explicit, implicit, and latent requirements	Source of power, Authority and responsibility, Coupling(nodes of intervention)	Decision process, Discrepancies in existing policies and procedures
Knowledge	Explicitness of the assumptions about the working paradigm	Measurement system, compatibility of performance criteria, measures, and rewards	Learning and control, Early warning systems, feedback loop (time lag)
Wealth	Viability of the Market niche, reliability of demand	Source of money, Relationships within the value chain	Operational viability, How demand for output is rationalised
Beauty	Vision of a desired future	Alienation, insecurities, boredom	Integration and differentiation
Values	Risk & Vulnerability	Default values of the culture	Conflict management

Source: Da Vinci Institute for Technology Management (2013)

The role players listed in Table 2-1 on systems analysis have the authority to carry out their plans in accordance with their mandate. Each stakeholder department, bulk service provider, and other defined role players' performance is evaluated in accordance with their plans. There were no assessment instruments identified in this study that assess the degree to which one stakeholder influences the performance or failure of another stakeholder.

Step 3: Systems Dynamics

System Dynamics helps to explain the interactions of critical variables throughout the timeframe, the totality and interactive existence of the transition within the system, and the system setting, as indicated in Table 2-3.

Table 2-3: System Dynamics

	PAST	FUTURE	PATTERN RECOGNITION
March of Events	Identify critical events over the past 10 years or more that have had significant impact on your immediate environment (e.g. industry, profession, community, family)	Identify plausible events in the near future (next 10 years or more) that you suspect would either put you in either a significant advantage or disadvantage	Is there a pattern or trend? (positive or negative) Identify periodic and/or random events
Drivers for Change Basis for Competition (success factors)	Changing from?	Changing to?	Identify conflicting, competing, collaborating, or reinforcing (cooperating) behaviours
Behavioural patterns or Practices of Critical Actors	Identify the dimensions	Rational Emotional Cultural	Identify causal and /or feedback loops

Source: Da Vinci Institute for Technology Management (2013)

Systems dynamics rely on past crucial events and identify possible events in the immediate future, whether positive or negative. The drivers of change within the system dynamics concentrate on changes from the past and the current state to the desired future state while defining overlapping, opposing, or collaborative behaviours. The attributes of the practices of the critical actors are established and the causal or feedback loops are identified. In the municipal context. The application of the systems dynamics model in the sense of Limpopo municipalities presented a scenario for the turn of events on past financial status and revealed those behaviours and trends associated with those behaviours. The identified constructs as drivers of change were used to identify behavioural trends towards financial sustainability from the past to the future. In Sections 2.4 to 2.8, these constructs are further explored through a literature review.

Phase 2: Mapping

The search mechanism uncovers a variety of impediments to make sense of these stumbling blocks. If the financial situation in the municipalities does not improve, there will be various unintended consequences as depicted in Figure 2-3.

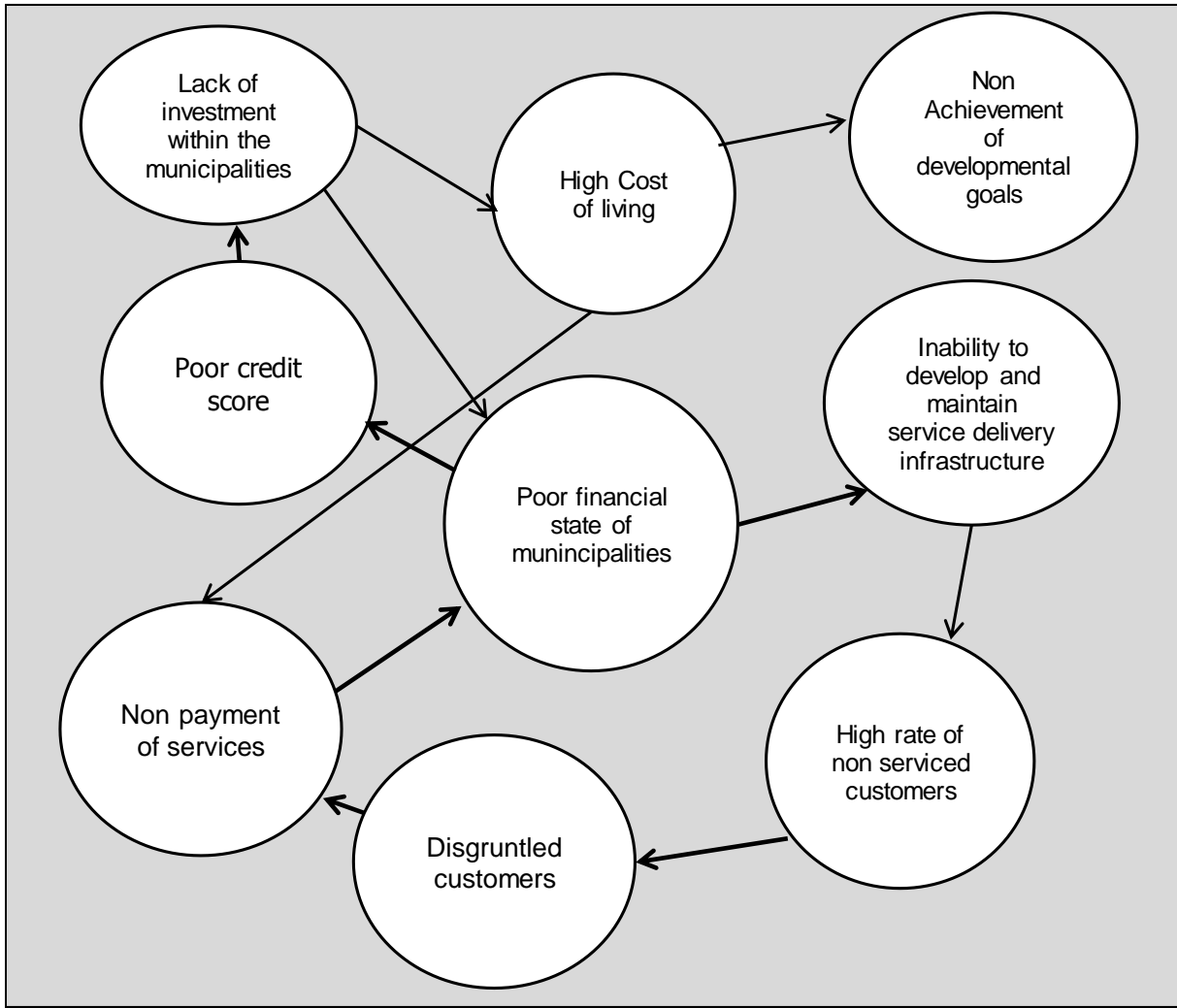


Figure 2-3: Mapping the mess – Interrelated system of problems

Phase 3: Telling a story

Figure 2-4 aims to explain the relationship between a structure and its environment by using the relative degree of influence that the organization has over the variables that surround it as a criterion of distinction.

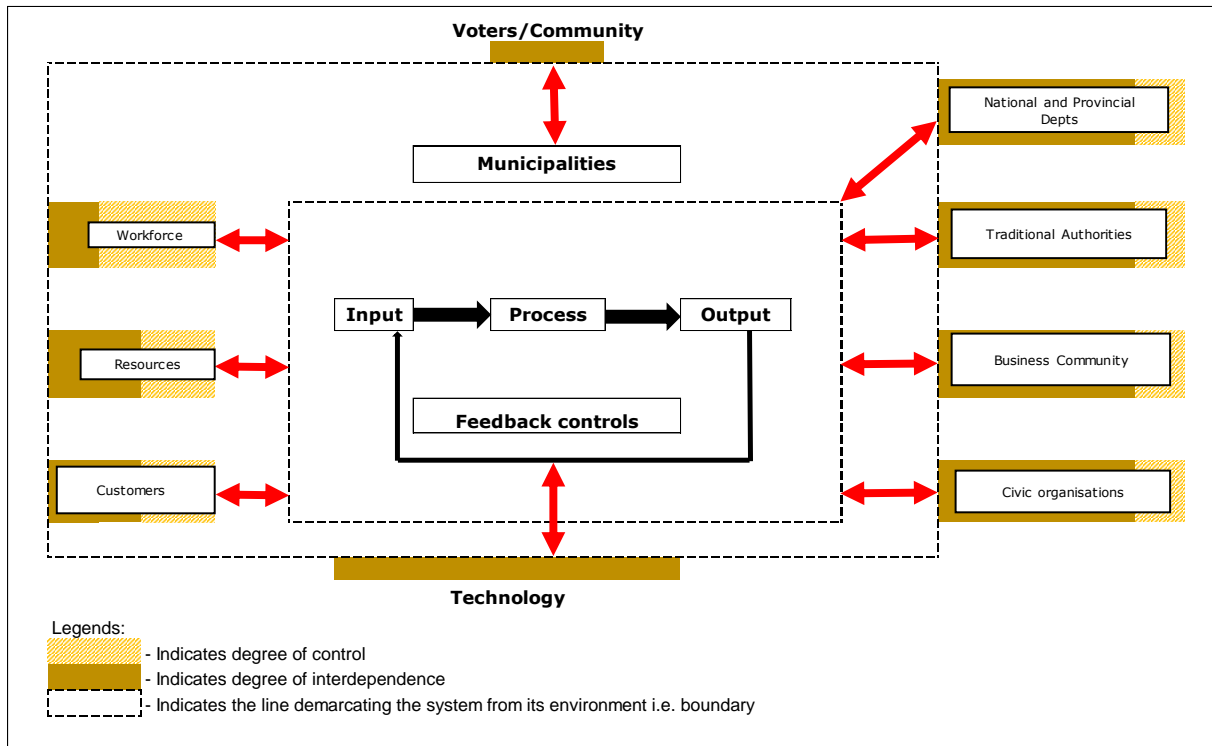


Figure 2-4: Relationship between a system and its environment

Source: Adapted from Da Vinci Institute for Technology Management (2013)

Municipalities have little influence over the behaviour of national and provincial departments, traditional authorities, the business sector, and other public organisations, but their behaviour is highly interdependent within municipalities. There is a large degree of control over workforce, resources that are used within the municipalities and to customers.

In summary, theoretical considerations and models surrounding the constructs were revealed in this chapter in order to reveal some of the research problem's underlying complexity. Section 2.3 provides a background on municipal goals from a global to local perspective, and their funding.

2.3 Background

2.3.1 Sustainable developmental goals

The United Nations (UN) adopted the sustainable development goals in 2015 with the aim of ensuring universal expiration of poverty, protection of the planet and ensuring that all people enjoy peace and prosperity by 2030. These goals include:

- i. Ensuring availability and sustainable management of water and sanitation for all;
- ii. Ensuring access to affordable, reliable, sustainable and modern energy for all;
- iii. Promotion of sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all;
- iv. Make cities and human settlements inclusive, safe resilient and sustainable;
- v. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation (United Nations, 2015).

African content committed to the implementation of the African Union Agenda 2063 which set out priorities that are linked to the developmental goals. Table 2 -1 below shows the linkage.

Table 2-4: African Union Agenda 2063 linkage to developmental goals

African Union Agenda 2063 Goals	African Union Agenda 2063 priorities	Link to UN Sustainable Development Goals
A high standard of living, quality of life and well-being for all citizens.	Social security and protection, including persons with disabilities	Promote sustained, inclusive and sustainable Economic growth, full and productive employment and decent work for all
	Modern, affordable and liveable habitats and quality basic service	Make cities and human settlements inclusive, safe, resilient and sustainable.
Healthy and well-nourished citizens.	Health and nutrition	Ensure healthy lives and promote well-being for all at all ages.
Transformed economies.	Sustainable and inclusive economic growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
	Economic diversification and resilience	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
	STI driven manufacturing, industrialization and value addition	
Environmentally sustainable and climate resilient economies and communities.	Bio-diversity, conservation and Sustainable natural resource management.	Ensure availability and sustainable management of water and sanitation for all.
	Water security	Ensure access to affordable, reliable, sustainable and modern energy for all.
	Climate resilience and natural disasters preparedness	Take urgent action to combat climate change and its impacts.
World class infrastructure criss - crosses Africa.	Communications and infrastructure connectivity.	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
Democratic values, practices, universal principles of human rights, justice and the rule of law entrenched.	Democracy and good governance	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
	Human rights, justice and the rule of law	
Capable institutions and transformative leadership in place.	Institutions and leadership	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
	Participatory development and local governance.	
Engaged and empowered youth and children.	Youth empowerment and children's rights	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
		Achieve gender equality and empower all women and girls.
Africa takes full responsibility for financing her development Goals.	African capital markets	Reduce inequality within and among countries.
	Fiscal systems and public sector revenue	Strengthen the means of implementation and revitalize the global partnership for sustainable development.
	Development assistance	

Source: Agenda 2063 - The Africa we want (2015)

The South African government published its National Development Plan in 2011 which aims to “eliminate poverty and reduce inequality through drawing from the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state and promoting leadership and partnerships throughout society” by 2030. (NDP, 2011). According to this document, strong leadership, effective government and active citizenry are a cornerstone in driving development in a socially cohesive environment. The following are some of the goals as set out in the National Development plan are improvement of the following:

1. Economy and employment;
2. Economic infrastructure;
3. Environmental sustainability and resilience;
4. Inclusive rural economy;
5. South Africa in the region and the world;
6. Transforming human settlement;
7. Improving education training and innovation;
8. Healthcare for all;
9. Social protection;
10. Building safer communities;
11. Building capable and developmental state;
12. Fighting corruption;
13. Nation building and social cohesion.

These NDP goals are aligned to the UN sustainable goals 2030 and the African Union Agenda 2063. For the purpose of this study, focus is placed more on goal no. 11 (building capable and developmental state). The objectives of this goal are to achieve:

- i. A state that is capable of playing a developmental and transformative role;
- ii. A public service immersed in the development agenda but insulated from undue political interference;
- iii. Staff at all levels have the authority, experience, competence and support they need to do their jobs;
- iv. Relations between national, provincial and local government are improved through a more proactive approach to managing the intergovernmental system;
- v. Clear governance structures and stable leadership enable state-owned enterprises (SOEs) to achieve their developmental potential.

To give effect to these objectives, national government developed the 2014 - 2019 Medium Term Strategic Framework (MTSF) to outline the plan and outcome based monitoring framework. The MTSF 2019 – 2024 covers an outline of implementation priorities within the country's national development priorities. All spheres of government conduct development planning as follows:

- a) The MTSF 2019 – 2024 is developed at a national level;
- b) The Provincial Growth and Development Strategies (PGDS) is developed at a provincial level, and
- c) The Integrated Development Plan (IDP) is developed at a municipal level.

MTSF 2019 – 2024 indicates that a capable, ethical and developmental state underpins all other priorities within the MTSF (DPME, 2020). The existence of capable state is dependent on the following attributes:

- i. Effectively coordinated state institutions with skilled and committed public servant to high quality of service;
- ii. The performance and capacity need to be even in local, provincial and national government.
- iii. Good interface between the political and administrative leadership,
- iv. Accountability in all spheres of government
- v. Organisational structures that are responsive to the institution mandate.

- vi. Public trust and stimulation positive energy towards government institutions through improved participatory governance mechanism, dialogues and delivery of quality of public service (DPME, 2020).

The Growth and Development strategy provides strategic direction for the province. According to the Limpopo Province 2014 – 19 Development Plan, its objectives are amongst others to provide a framework for the strategic plans of each provincial government department, as well as the IDPs and sector plans of districts and local municipalities. The plan also seeks to create a structure for the constructive participation of private sector business and organised labour towards the achievement of provincial growth and development objectives and encourage citizens to be active in promoting higher standards of living in their communities (Limpopo Provincial Government, 2014).

The IDPs are five year plans produced by municipalities within their areas of jurisdiction to give effect to the developmental duties placed on municipalities in terms of section 153 of the Constitution. This section requires that “a municipality must structure and manage its administration and budgeting and planning processes in order to give priority to the basic needs of the community and to promote the social and economic development of the community” (Constitution of the Republic of South Africa, 1996: s153). Section 23 of Local government: Municipal Systems Act of 2000 (2000) states that the municipal planning must be developmentally-oriented and strive to achieve the objects of local government as set out in section 152 of the Constitution.

Section 25 of Local Government: Municipal Systems Act , No 32 of 2000 (2000) requires each municipality, within a prescribed period after the start of its elected term, adopt an IDP that is compatible with national and provincial development plans and planning requirements binding on the municipality.

A municipality that achieves its objectives as set out in the IDP is inherently contributing to the achievement of the PGDS strategy, the NDP objectives, the Africa Agenda and the sustainable developmental goals. Ziolo (2015) argues that the delivery of public goods and services requires financial resources to cover all costs and expenses. Section 1.3 indicated that 62.9% of Limpopo municipalities are in financial distress, with only one municipality achieving the desired audit result and with 8 municipalities with liquidity ratio above 1:1 for the 2018/19 financial year. These results show that the financial sustainability of the municipalities in Limpopo is at risk. This study selected constructs to determine their influence on financial sustainability. Section 2.2.2 discusses the legislative requirements for the sustainable funding of developmental objectives. The section further seeks to link the identified constructs to the NDP critical success factors.

2.3.2 Funding Developmental goals at local government sphere (municipalities).

Section 21 (1) of Municipal Financial Management Act, No 56 of 2003 requires that "the mayor coordinates the processes for preparing the annual budget and for reviewing the municipality's integrated development plan and budget related policies to ensure that the tabled budget and any revisions of the integrated development plan and budget related policies are mutually consistent and credible. " Municipalities' priorities, plans, budgets, implementation actions and reports need to be properly aligned" (National Treasury, 2011). It is for that reason that National Treasury developed a municipal financial management and accountability cycle to guide the

process and ensure that the IDP and the budget processes are integrated. Figure 2-5 below depicts the accountability cycle for municipalities.

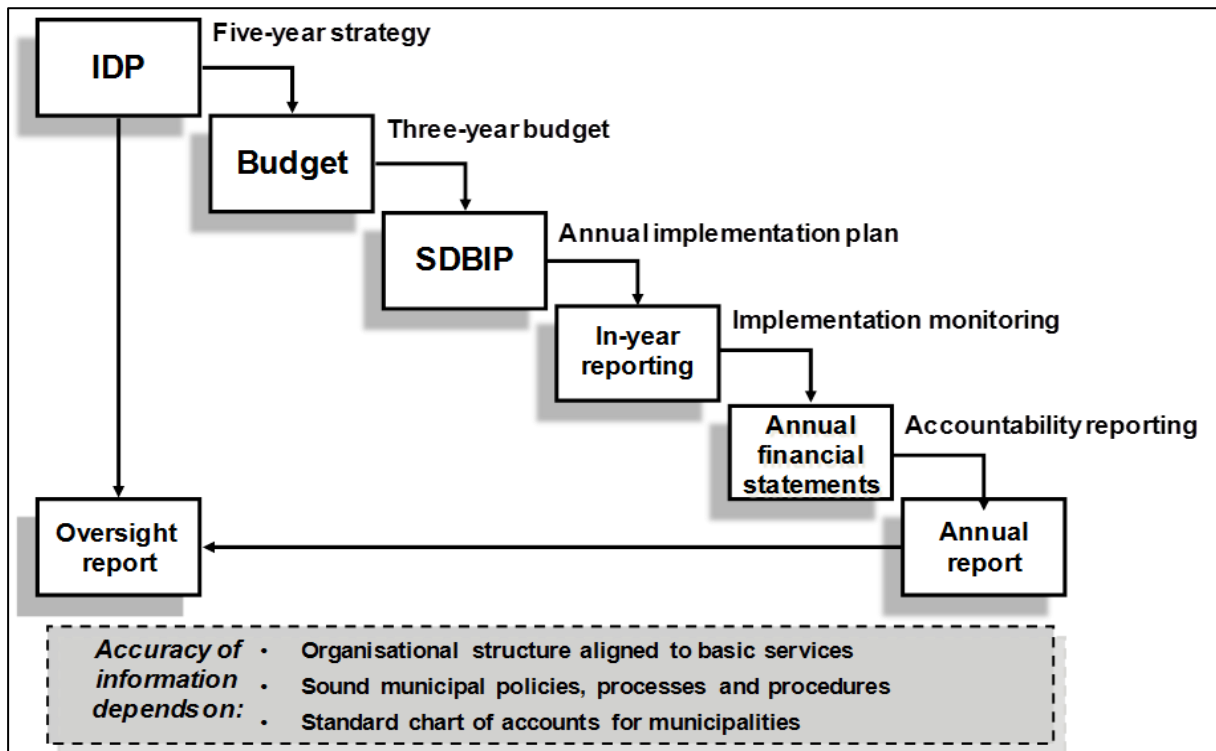


Figure 2-5: Municipal financial management and accountability cycle

Source: National Treasury Local Government Budget and Expenditure Review (2011)

Section 21(2) Municipal Financial Management Act, No 56 of 2003, (2003) compels the mayor to take all reasonable steps that the IDP is revised, take into account the national budget, relevant provincial budget, the national government’s fiscal and macro-economic policy. The municipal consultation with stakeholders such as the district municipality, all other local municipalities within the district municipality and relevant provincial treasury is mandatory (Municipal Financial Management Act, No 56 of 2003, (2003)).

The main source of revenue for municipalities are own revenue, borrowing and funding from national government. One of the conditions of funding a municipal budget provided in section 18 of Municipal Financial Management Act, No 56 of 2003, (2003) is that it may only be funded from realistically anticipated revenues to be collected based on realistic projections that takes into account the following:

- i. actual revenue collected in previous years
- ii. and projected revenue of the for the current year based on collection levels to date

This section indicates that a municipality need to be financially sustainable in order to be able to fulfil its responsibilities towards the achievement of 2030 developmental goals, the African Agenda: 2063, the National Developmental Plan, the Limpopo Development Plan, the district and local municipalities’ IDPs.

The NDP (2011) identified the following critical success for the plan. Table 2-5 seek to link the constructs that will be investigated against the critical success factors of the NDP.

Table 2-5: NDP critical success factors and constructs

Critical success factors of the NDP:	Constructs that relate to the NDP critical success factor
<i>Focused leadership</i> – requires a degree of policy consistency that straddles changes in leadership in government, business and labour	Governance structures and Intergovernmental relations
<i>A plan for all</i> - Broad support across society through vigorous debate to build consensus and broad based ownership of the plan.	Public participation
<i>Institutional capacity</i> that good management and commitment to high performance, focus on uncompromising ethics and willingness to learn. Challenges within institutional capacity such as complex intergovernmental systems, high level of corruption, weak lines of accountability, inadequate legislative oversight require attention.	Governance structures, Intergovernmental relations and customer care
<i>Resource mobilisation and agreement on trade-offs</i> – there is a need for greater efficiency in all areas of government expenditure.	Infrastructure management and Public participation
<i>Sequencing and willingness to prioritise</i> – government need to have the willingness focus on a few strategic priorities	Public participation and Customer care
<i>Clarity on the responsibility</i> - to provide the public with a clear sense of who is accountable for what.	Governance Structures

Source: Adapted from the NDP (2011)

The next sections provide literature review on the identified constructs in line with the objectives of the study.

2.4 Public participation and infrastructure development

One of the objectives of the local government is to encourage the involvement of communities and community organisations in the matters of local government (Constitution of the republic of South Africa, 1996: s152). The involvement of communities in matters of local government promotes social and economic development. Naidoo and Ramphal (2018) define public participation as a method through which interested or affected parties are given an opportunity to be involved in a decision making process in municipal affairs.

Maphazi, Raga, Taylor and Mayekiso (2013) state that the purposes of public participation are to educate and inform the public; incorporate public values into decision-making; improve substantive quality of decisions; increase trust in institutions; reduce conflict and achieving cost-effectiveness.

Bello, Martin, Juanil and Kasim (2017) found that municipal service delivery can be enhanced through a citizen awareness campaign in order to sensitise the local community on the maintenance of the provided facilities. Heldt, Budryte, Ingensiep, Teichgraber, Schneider and Denecke, (2016) argue that if the disadvantages of a project that is to be implemented exceeds the stakeholder's personal and general advantages, the stakeholder is not likely to endorse it. The researchers also argue that events that promote a project that is not endorsed would not change the people's minds. They, however, suggest that continued communication and a feeling of transparency which is adjusted to the needs of the different local stakeholders might mitigate personal negativity towards the planned projects to a certain degree.

Ngamlana (2019) argues that, the way in which municipalities coordinate participation by the public contributes to the municipal projects not succeeding. The author further asserts that

citizens are not considered as important partners in the collaboration and when making decisions; but they are instead handled as, “stakeholders or invited guests” and decisions are then made by officials and political representatives. Mngoma (2010) also observed that there was a tendency for city officials to call meetings to inform informal traders about predefined problems and solutions. This has over time led to an increased outbreak of protests that are related to bad service delivery (Ngamlana, 2019).

Ngamlana (2019) believes that effective public participation is dependent on the different factors as outlined in the Figure 2-6 below.



Figure 2-6: Factors affecting effective public participation

Source: Ngamlana, 2019

2.4.1 Legal Framework for public participation

Section 16 of the Municipal Systems Act, No. 32 of 2000 (2000: 37) requires that a municipality create, “a culture of municipal governance that complements formal representative government with a system of participatory governance”, which must also empower citizens to contribute in municipal matters (Municipal Systems Act, No. 32 of 2000, 2000). The Act further requires councillors and municipal staff to promote community involvement.

Ngamlana (2019) argues that the major limitation of the current legislation framework is that it is too prescriptive in nature and does not provide informal, unrestricted and creative ways for public engagements to prosper. Contrary to that view, Ng, Li and Wong (2012) state that despite the mandated public participation exercise, it is the government’s prerogative to decide on the community facilities that are to be delivered. Ng *et al.* (2012) nevertheless, believe that in a democracy, engaging diverse views from the community before taking decisions is a prerequisite in order to enhance the integrity and trustworthiness of the outcomes.

Legacy (2018) supports Ng *et al.* (2012) by indicating that infrastructure cannot be approached separately from the citizens as it is meant to serve. By building citizen engagement into infrastructure planning, decision-makers can better respond to the needs of the community thereby articulating a shared vision for the community and also enhancing democracy. Mawonong and Ogunlana (2008) observe that in order to guarantee project success, the public participation approach must be increasingly employed to avoid project delays due to public objections.

The above literature endorses that the law requires that structures must be created in order to enable public participation in decision making.

2.4.2 Resources available for public participation

Pagatpatan and Ward (2017) assert that, involving the public requires the allocation of significant human and financial resources. Furthermore, the cost of implementing public participation exercises should not outweigh the benefits of implementation. Fiorenza (2013) emphasises this point by indicating that without these resources, apathy, disillusion, and decreased trust in government can occur, as citizens do not witness any tangible or positive impacts through their increased engagements.

Ngamlana (2019) postulates that in order for public participation to enhance the achievement of the municipalities' goals, the municipality must build sustainable relationships with the community and it should also determine the local citizens' level of skills and competencies before they can contribute to local government matters. This, according to Ngamlana (2019: 23), "requires a hybrid of different disciplines that range from sociology, social facilitation, planning and communication". Municipalities employ officials who are responsible for the facilitation of public participation but the tertiary institutions in the country have limited training courses that prepare these officials for this task. According to Mngoma (2010), the municipality should not only be concerned about building public participation capacity with reference to its staff, but should also empower leaders and members of committees representing public communities. Marwala (2020), states that the fourth industrial revolution (4IR) which requires the creation of critical thinking and the inclusion of systems thinking in education rather than specialised education because understanding people and society is crucial in new era employment. In addition, Marwala (2020) suggests that the South African government initiate a redesign of the human capital growth environment in order to link the entire pool of potential employees to efficient and decent jobs.

According to Ngwane (2017), the success of the implementation of the National Policy Framework on Public Participation depends on the municipalities' recruitment and retention plans. Municipalities must use their resources to allocate funds in the budgets for the purpose of encouraging the community to participate in the affairs of the municipality (Local Government: Municipal Systems Act No 32, of 2000, 2000). Contrary to the legislation requirement, Haarhoff (2019) observes that the political leadership and the management of municipalities do not realise that they have an obligation to invest the necessary resources in order to build a strong relationship with stakeholders.

Ng *et al.* (2012) observe that the positive attitude of developing countries on public participation in public infrastructure construction has not been replicated globally. The authors argue that this results from the perception that financial cost is unaffordable and that the time required for public participation outweighs the benefit. Van Belle and Cupido, (2013) corroborate this notion

by arguing that although the Constitution of South Africa supports political participation, the provided mechanisms still prohibit many from interacting. Ng *et al.* (2012) argue that public participation success requires a methodical framework in order to guide the process for different types and sizes of public infrastructure services.

Participants appreciate how the public's ideas and suggestions are used internally by the organisation or externally by the relevant stakeholders. The provision of detailed feedback through reports and responses on the public inputs that have been considered, accepted and rejected is a gesture of transparency and accountability to the public (Pagatpatan and Ward, 2017).

Fiorenza (2013) motivates that in order for public participation to truly work, the government needs to create a comprehensive communications strategy through various engagement channels that include emails, social media, advertisements, door to door visits, attending in person events, SMS, or hosting informational sessions. Fiorenza (2013) further motivates for the empowerment of citizens by providing a technology platform for innovation and engagement that permits quick retrieval of data, such as instantly submitting forms and quickly finding the information that is needed for meaningful contribution.

Van Belle and Cupido (2013) propose that mobile phones must be used in order to reduce the time and cost of public participation, as they are an integral part of everyday life. Furthermore, the widespread acceptance and adoption of mobile phones in South Africa makes it the perfect vehicle for citizen interaction. Application of digital technologies to help people better understand planning and become more aware of their options for participation helps to remove obstacles to community participation in the planning process, allowing a more open method for the public to potentially influence their neighbourhoods' future (Wilson *et al.*, 2017).

MTSF 2019 – 2024 acknowledges that South Africa lags behind many of its counterparts when it comes to innovation around Information and Communications Technology (ICT) systems, network connectivity and more sustainable technologies that can be limiting to both the private and public sector. This then has an impact on the transition into 4IR and it reinforces the country's regional advantage (Department of Planning, Monitoring and evaluation, 2019). Kakande (2019) argues that in order to reap tangible benefits from public engagement, governments must invest in technology to create simple channels that empower people and are accessible to the general public. Furthermore, Kakande (2019) states that the government should aggressively publicise these sites and provide incentives to attract people.

2.4.3 Stakeholder inclusivity

Ngamlana (2019) asserts that the business sector is recognized and rated highly as an important stakeholder that provides inputs to important municipal decisions. There is, however, an underestimation of the value of key stakeholders such as young people, the academia and the general public as these can provide new ideas for resolving service delivery problems. Augsberger, Collins and Gecker (2017) support that youth participation in collective decision-making has been slow to institutionalise, despite its perceived relevance to youth, community, and society. Ngamlana (2019) further contends that there is a general preference to seek input from professionals with specific technical skills who are predominantly from the business sector. Ella (2016) confirms that local councils have a greater chance of improving the public policies' responsiveness to the population's needs when different groups of the community or

municipality are represented and when decision making is equally shared between political authorities and citizens.

According to Ngwane (2017), the public participation process ensures that the needs of various groups are presented as there are representatives that advocate for issues such as gender, age, social standing, political standing and disability. This, according to the author supplements the practicality of interacting with every community member. Sebola (2017) posits that in order to maximize the effectiveness of public engagement, digital and electronic technologies have been developed to supplement the print and interpersonal communication mechanisms that have been and are still used in engaging with the public for policy creation. Marwala (2020) argues that in South Africa, widespread inequality has led to disparities in access to technology and lack of innovation.

The above literature confirms that stakeholder inclusivity promotes the public's positive attitude towards the municipalities' plans including that of development of infrastructure.

2.4.4 Citizens' capacity to participate

A good appreciation and understanding of the problem that is being reviewed is a prerequisite order to contribute adequately to the deliberation process during the public participation process (Pagatpatan & Ward, 2017). Ngamlana (2019) contends that the local communities by and large do not have the competence to engage in municipal matters in a manner that would provide valuable inputs to the municipalities' developmental agenda. Ngwane (2017: 91) finds, that "community members did not know that they have a right to be involved in municipal matters and also have the responsibility to assist the municipality in its operations so as to ensure a mutually beneficial state of affairs".

Municipalities should therefore intensify public education especially among the poorer section of the community. This will ensure that their priorities are addressed by the relevant municipality (Kaseya & Ephantus, 2016).

The capacity for citizens to participate in decision making also depends on the accessibility of information. The lack of transparency through inadequate access to information can be at odds with the rationale for public participation (Marais, Quayle & Burns, 2017). The literature review revealed that the citizens' understanding of the municipal processes and the content of discussions does improve discussions and the decision making process.

2.4.5 Institutional mechanisms to enable participation

Organisational governance structures such as the ward committees, internal oversight committees and municipal councils are intended to address the community's needs and grievances. Figure 2-7 in the next section indicates how public information flows in and out of municipalities through the council committees. Ngamlana (2019) asserts that municipal governance structures are not capable to perform as expected and/or there is an absence of "political will" from the leaders of these structures as they can lack empathy and cannot effectively deal with the citizens' complaints. The author also posits that legislated redress options are consequently unsuitable or are beyond reach for the citizens. Mbecke (2014) argues that South Africa has a good legal structure and policies for administering local governments, but corporate governance has yet to be enforced in local governments. Ngamlana (2019) further observes that sometimes service delivery unrest becomes the only

dispute resolution option that is left for the citizens. The role of ward committees will be further explored in the next subsection on governance structures.

Public participation that is underpinned by the philosophy that emphasises empowerment, equity trust and learning is an integral part of infrastructure development. It provides residents with a sense of attachment to the public spaces and it may lead to the community maintaining those spaces (Ismail & Said, 2015). The complexity of having everyone who is affected or interested in public participation, requires the embracing of technological solutions in order to harness collective intellect amongst the population. Brabham (2009) argues that the crowdsourcing model is an appropriate model for enabling the citizens' participation process in public planning projects. Ismail and Said (2015) agree that the quality of decisions that are made through community participation is strongly reliable on the nature of the community participation's process.

Hypothesis 1: The effectiveness and the efficiency of public participation will have a positive impact on the development of the infrastructure.

2.5 Governance structures and financial sustainability

According to the World Bank (2017: 3) "governance is the process through which state and non-state actors interact to design and implement policies within a given set of formal and informal rules that shape and are shaped by power". Furthermore, the World Bank (2017) points out that the distribution of power is a crucial element that influences the effectiveness of policy implementation.

The Local Government: Municipal Structures Act, No. 117 of 1998 (1998) states that, a municipal council may establish one or more committees that are necessary for the effective performance of any of its functions. The functions of such a committee are determined by the council.

The Local Government: Municipal Structures Act, No. 117 of 1998 (1998) also allows municipalities with executive committees or executive mayors to appoint a committee of councillors in order to assist the executive committee or executive mayor. The council committees must report to the mayor or to the executive committee.

Figure 2-7 below depicts the municipal governance structure from executive management.

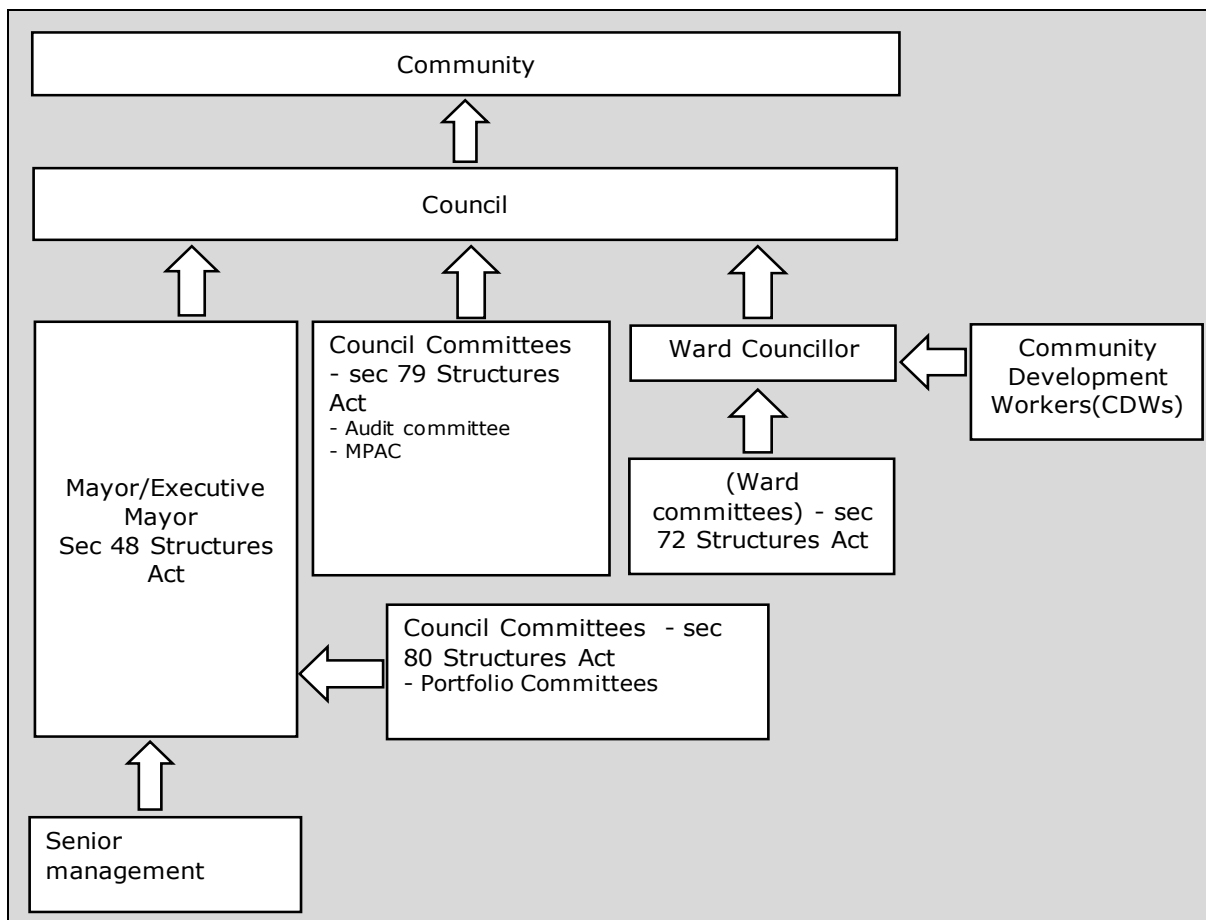


Figure 2-7: Municipal governance structure

Source: Adapted from Local Government: Municipal Structures Act, No 117 of 1998

Figure 2-7 above shows that the council is accountable to the community. The ward committees through the ward councillor are a link between the council and its community (Local Government: Municipal Structures Act, No. 117 of 1998, 1998). Communities vote for ward councillors who can serve the society’s interests. A ward is a geopolitical subdivision of the municipality that is used for electoral purposes.

The electoral system allows for the alignment of the elected ward councillors to be from a political party in order to preserve financial and other forms of support (Ngamlana, 2019). The Cooperative Governance and Traditional Affairs (CoGTA) appoints Community Development Workers (CDWs) through the Public Service Act, No. 03 of 1994, which implies that they are accountable to the department rather than to the municipality.

Siddle and Koelble (2016) purport that a persistent challenge in the local government sphere is that ward committees are not working as they are expected to, and their roles are not clear. The following table shows the roles and responsibilities of these three structures that have direct contact with the communities.

Table 2-6: Roles and responsibilities of Councillors, Ward Committees and CDWs

Councillors	Ward Committees	Community Development Workers (CDWs)
<p>Politically elected representatives who live in and service the ward.</p> <p>The Ward Councillor:</p> <ul style="list-style-type: none"> • Chairs the ward committee. • Convenes the constituency meeting to elect Ward Committee members. • Calls committee meetings. • Ensures a schedule of meetings is prepared, including Ward Committees and constituency meetings. • Works with the Ward Committee to draw up an annual plan of activities. • Handles queries and complaints. • Resolves disputes and refers unresolved disputes to the municipality • Should be fully involved in all community activities. <p>The proportional representative councillor:</p> <ul style="list-style-type: none"> • Should attend Ward Committee meetings, constituency meeting and special meetings. • Can assist with resolving disputes and making referrals. • Can help with the implementation of project. • Supports the Ward Councillor, but does not replace the Ward Councillor. 	<p>Up to 10 community or sectoral representatives elected at a ward general meeting to represent sectoral interest. The committee is the centre of local government.</p> <p>A Ward Committee:</p> <ul style="list-style-type: none"> • Takes issues of local concern to the councillor, who in turn takes these to council. • Has a direct say in the planning, decision-making and project implementation that have an impact on their ward. • Increases the participation of local residents in municipal decision-making. • Is not politically aligned. • Should be involved in matters such as the integrated development planning process, municipal performance management, the annual budget, council projects and other key activities. • Can identify and initiate projects to improve the lives of people in the ward. • Can support the councillor in dispute resolution. • Can monitor the performance of the municipality and take issues of concern to the local ward. • Can help with community awareness campaigns on issues such as waste, water and sewage, payment of fees and charges. • Forward names of prospective CDW candidates from their respective wards for learnership. 	<p>Appointed public servants governed by the <i>Public Service Act 1994 (Act 103 of 1994)</i>.</p> <p>The CDW is expected to:</p> <ul style="list-style-type: none"> • Regularly communicate government and other information to communities in an accessible way. • Pass concerns and issues on to the service providers. • Coordinate teams of volunteers in community projects, coordinate teams employed on public works programmes, help communities develop and submit proposals for inclusion in intergraded development plans to municipalities, other spheres of government or donors. • Coordinate inter-departmental programmes and encourage integration. • Maintain communication with Community Based Organisations and workers. • Promote the principles of Batho Pele and community participation. • Inform communities about problems in the delivery of basic services. • Help implement projects. • Liaise with and advocate on behalf of communities with parastatals, NGOs and private donors. • Monitor, evaluate and report on the impact of developmental projects. • Helps communities deal with diseases (such as TB, HIV and AIDS) and intensify education and awareness of sexually transmitted diseases and other health matters. • Help government archive the people's Contract of a better life for all. • Act as a resourceful and dedicated public servant.

Source: Mokoena and Moeti (2017)

The council, ward committees and CDWs have a direct contact with their communities. According to Mokoena and Moeti (2017), CDWs share the working space with ward committees who have a direct say in planning, decision-making and project implementation in their respective wards. The roles of the two structures overlap due to the similar focus areas and this normally causes conflict between these two structures and it is therefore difficult for the communities to differentiate between them.

Pieterse (2018) argues that the South African municipal governance is bedevilled by the influence of political parties which contributes to the crisis in municipalities. Political parties are voted for by the citizens, but it is the parties' prerogative to select their political representatives and this is not automatically in line with the voters' choice (Ngamlana, 2019). This politically inclined choice of council representatives is imperative for swaying decisions that are taken at council level (party caucuses) (Ngamlana, 2019). This results in ward councillors being loyal to the political party rather than to the communities that voted them in which results in citizens with limited or no power to recall these councillors (Ngamlana, 2019).

The World Bank (2017) determines that the envisioned outcomes of the formal laws are driven by governance more than their existence. The World Bank, (2017: 5) argues that the achievement of the full intent of the law is dependent on, "commitment, coordination, and cooperation as the three core functions of institutions that are needed to ensure that rules and resources yield the desired outcomes". Governance determines the municipal's accountability, efficiency and responsiveness to its communities demands (Slack, 2015). According to OECD (2019) successful public sector innovation necessitates adaptive and reactive structures that

are sensitive to evolving environments by enhancing the ability to collect financial and non-financial data and knowledge for decision making. This necessitates leadership that demonstrates the ability to link individuals, knowledge, and resources, as well as collaborate with other organisations and private citizens, to solve complex problems that resist fragmented solutions (Byrne *et al.*, 2018). Furthermore, it also entails the ability to challenge and adjust without having a solution, as well as the ability to maintain accessible, clear interactions with a variety of stakeholders through different media (Byrne *et al.*, 2018).

The Cooperative Governance and Traditional Affairs (2016) states that one of the pillars at the core of the effective and efficient functioning of municipalities is good governance. Lekala (2019) posits that good governance needs to be interwoven with ethical leadership and ethical governance in order for it to be consolidated as well as embedded within the system of local government organization so that it can best be positioned to deliver on its developmental roles. According to Dlalisa (2009), the consequences of poor governance in local government include high risk of violence, decline in municipal service payments and consequent poor service delivery.

Van Donk and Williams (2015) emphasise that a value-driven system of governance is important as it provides an organisational culture that allows municipal representatives to interact with each other and with external stakeholders which in turn builds its public image. Legislation, ethics and the upholding of good conduct by public officials are essential conditions for the sustenance of good governance and service delivery (Vyas-Doorgapersad & Ababio, 2010).

The Local Government Municipal Structures Act No. 117 of 1998 introduced a code of conduct for councillors, while the Local Government: Municipal Systems Act No. 32 of 2000 specifies the code of ethics for officials. Siddle and Koelble (2016) assert that the code of conduct for councillors was not adhered to and there were no consequences for its contravention by councillors. The authors also highlight that despite most councillors lacking technical expertise and knowledge of their roles and responsibilities, they were regularly appointed to oversee committees. Furthermore, ward committee systems are being used as platforms for political agendas contrary to their intended purpose. Poor political leadership and council infighting results in the paralysis of municipalities and misguided political ambition which leads to unimplementable decisions.

Councillors must abide by the code of conduct and they have to report back to their constituencies at regular intervals (Vyas-Doorgapersad & Ababio, 2010). Ardigó (2019) purports that digital reporting mechanisms may also strengthen anti-corruption initiatives by providing additional resources for citizens to report corruption. Eisenstein (2019) observes that the more a local government encourages transparency, the more it increases trust, honesty and integrity in the government leaders.

The National Treasury (2018) identified that amongst the causes of the municipalities' financial failures are mismanagement of funds, lack of transparency, the interference of labour unions in public administration and other political dynamics. The National Treasury (2018) further emphasised that the mismanagement of finances is the main source of fiscal distress. This is confirmed by AGSA (2018) that accountability for financial and performance management continues to deteriorate in the local government sphere.

Eisenstein (2019) further identified that public officials who have integrity are ever mindful of the fact that the money they have to spend on their communities comes directly from their citizens through municipal taxes and they are also aware that the government exists to serve the communities. Having access to these funds also means that citizens have the right to know how their local officials intend to allocate the funds.

Governance structural flaws contribute to the crisis in South Africa's municipalities which result in the need for South Africa to devise uniform, simple and clear, internal accountability structures for local government (Pieterse, 2018). Preventing unethical behaviour such as corruption assists in raising municipal revenues and contributes towards improved service delivery (Dlalisa, 2009). Mokoena and Moeti (2017) posit that in order to improve the effectiveness of ward committees and CDWs, there is a need to improve the cooperation and coordination in municipalities. Values and principles determine the people's conduct, as well as the municipalities' performance. Relationships are positioned at the heart of the governance model (Van Donk & Williams, 2015). Sayeed (2016) states that the voluntary ethics programs is the most effective way to combat inappropriate organisational behaviour. Mayors, councillors and municipal managers have a fiduciary duty to ensure that public funds are safeguarded and only used for the benefit of communities. It is for this reason that issues of good governance are exceptionally important in assessing the relationship between service delivery responsibilities and the local government framework (National Treasury, 2011).

Hypothesis 2: Poor institutional governance structures erode financial sustainability over a period of time.

2.6 Intergovernmental relations and financial sustainability

According to Colasante (2018), intergovernmental relations are defined as interacting networks of institutions at national, provincial, and local levels, that are created and refined to empower various parts of government to cohere in a manner appropriate to institutional arrangements.

"The national and provincial governments, by legislative and other measures, must support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions" (Constitution of the republic of South Africa, 1996, s154). Figure 2-4 below depicts the South African intergovernmental structure.

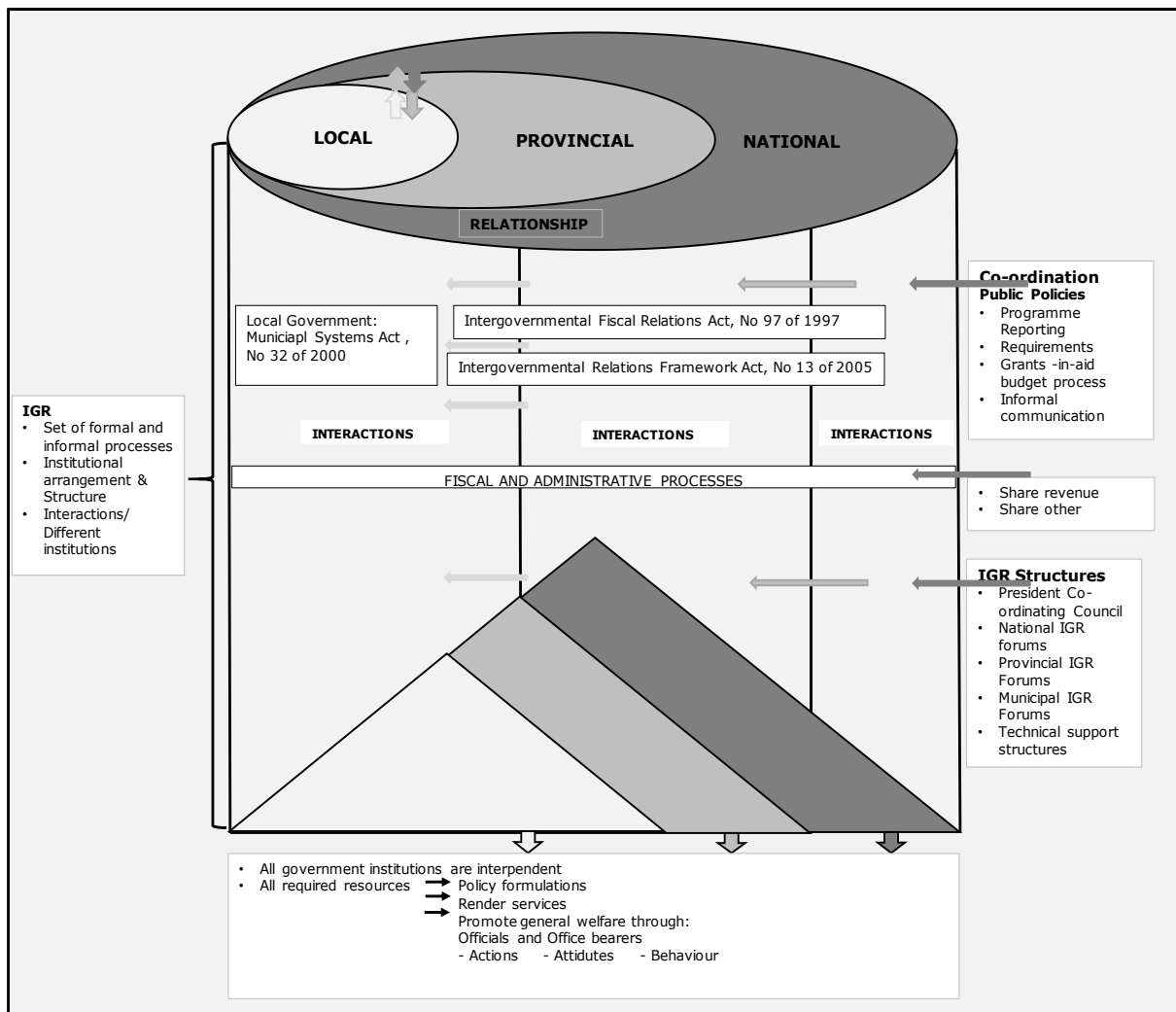


Figure 2-8: Intergovernmental Relations structure

Source: Geldenhuys (2005)

Figure 2-8 above shows the intergovernmental structure and the related roles, responsibilities and forums.

According to the National Treasury (2011), intergovernmental relations identify the following key elements and principles that underpin the intergovernmental system. The eight core pillars are namely: Accountability; transparency and good governance; mutual support; redistribution; vertical division; revenue-sharing; broadened access to services; and responsibility over budgets. These pillars are explained below:

Accountability: There are various levels of accountability which are determined by the constitutional responsibilities of each sphere of government. The highest authority level in a municipality is the council and it is accountable to the community. The governance structure in Figure 3 shows the different accountability levels within a municipality. The provincial and the national government are mandated to intervene in local governments in an instance of municipal failures (Constitution of the Republic of South Africa, 1996: s155).

Transparency and good governance: It is a legislative requirement that a municipality must be transparent in its operations. Some of the measures used to ensure transparency are to disclose the municipal's Integrated Development Planning document, which includes the budget, contractual obligations relating to service delivery, borrowings and supply chain contracts above a predetermined value (Municipal Finance Management Act No. 56 of 2003 (2003)). Disclosure improves public knowledge and allows for better engagements between citizens and municipalities. Good governance requires that both political and administrative leadership must act in good faith for the benefit of the municipality and its citizens when executing their duties.

Mutual Support: The three spheres of government need to support each other in order to avoid the failure of government ((Intergovernmental Relations Framework Act No 13 of 2005, 2005). Mutual support is dependent on timely and effective communication. Any sphere of government that intends allocating funds to a municipality, should formally communicate that intention within reasonable time to allow for adequate planning. The reasonable time should not be less than 120 days before the start of municipal financial year (Municipal Finance Management Act No. 56 of 2003 (2003)).

Redistribution: The local, provincial and national governments share national revenue that is generated through taxes and borrowings in line with the Division of Revenue Act No, 4 of 2020 (2020). The municipalities are also required to generate their own revenue from the basic service charges and surcharges (Local Government: Municipal Systems Act No. 32 of 2000 (2000)).

Vertical division: The size of allocation to each municipality, provincial and national government is decided in consultation with various stakeholders (Intergovernmental Fiscal Relations Act: No. 97 of 1997). The fundamental drive of allocations is based on the national service delivery priorities and fiscal limitations.

Revenue Sharing: The legislated function and the ability of a sphere of government to raise their own revenue are considerations for revenue sharing.

Broadened access to services: One of the commitments in the National Development Plan-2030 (2010: 157) is, "ensuring the supply of energy and water is reliable and sufficient for a growing economy, and that the responsibilities of municipal maintenance of distribution systems are appropriately allocated and funded". Municipalities should strive to ensure that communities' access basic services and they must fulfil the goals of the National Development plan-2030.

Responsibility over budget: Each municipality must prepare a budget that supports the fulfilment of the provision of basic services to the communities. An implementable budget needs to consider the municipality's priorities as envisaged in the IDP. There must be a realistic collection rate and projected expenditure (Municipal Finance Management Act No. 56 of 2003 (2003)).

Basdeo (2012) observes that the judicial interpretation of law forces all spheres of government to collaborate in the provision of basic services despite each sphere's competency.

Geldenhuys (2005) remarks that the most comprehensive challenge, however, manifests in the operational environment of the intergovernmental relations, specifically in the management of these mechanisms and the identified actions in terms of the authoritative IDP process. Makoti (2017) supports this remark by arguing that the existing legislated conflict resolution mechanisms are not sufficient. The author further observes that the constitutional provisions to improve relations within the three spheres are not being adhered to due to the lack of will power from various stakeholders.

The coordination between the spheres of government is identified as one of the sources of protest action due to the delays and communication breakdowns in service delivery (Steyn, 2016). This statement is corroborated by Mbecke and Mokoena (2016) who conclude that provincial and national governments are not actively involved in the municipalities' planning processes and are thus hampering service delivery which results in the fact that IDPs are not able to facilitate service delivery. Matlala and Motsepe (2015) cite that the IDPs engagements between the national departments, provincial departments and the municipalities should be elevated from being voluntary and informal interactions to being formal arrangements with clear goals, roles and responsibilities. OECD (2019) posits that platforms to disseminate innovation are critical ingredients for success since relations to other organisations will provide access to the expertise, support, and means to bring an idea into action while also connecting stakeholders at various levels of government.

When it comes to the district municipalities' role of coordination in local municipalities, Magagula, Mukonza, Manyaka and Moeti (2019) posit that there is lack of coordination by district municipalities. Local municipalities have an executive and legislative authority, which limits the district municipality towards holding them accountable for failure to execute their constitutional obligations. This results in that some local municipalities do not support the forums that have been put in place to share experiences between the district and the local municipalities (Magagula, *et al.*, 2019).

The government acknowledged this challenge in the president's presentation of the Presidency Budget Vote to the National Assembly on 17 July 2019, where President Ramaphosa identified the, "pattern of operating in silos " in government as a challenge which led to the "lack of coherence in planning and implementation and has made monitoring and oversight of government's programme difficult" (Ramaphosa, 2019). This resulted in the launch of the district-based coordination model which aims to address service delivery and economic development challenges through the synchronisation of planning across all spheres of government, working alongside social partners such as businesses and the community (The Presidency, 12 September 2019). Marwala (2020) observes that there is no realistic data transfer from one institution to another in South Africa. Marwala (2020) further recommends that in order to develop e-government services across sectors, the government should secure and make data available to encourage innovation by establishing a national data centre that serves as a repository for data across the country.

According to Basdeo (2012), the municipalities' challenges are exacerbated by uncoordinated national policy decisions which result in unmatched increase in implementation expenditure when compared to the revenue. Basdeo (2012) argues that this incidence of unfunded mandate reflects a power hierarchy. Siddle and Koelble (2016) also observe that the lack of clarity about the role delineation of different spheres of government has led to the fulfilment of responsibilities without budgets. This confusion according to Siddle and Koelble (2016) is

caused by, amongst other things, the ambiguity in legislation and the enforcement of functions onto municipalities through regulations.

Amongst other important stakeholders in local government are traditional authorities. Traditional authorities may participate in the proceedings of the council through their leaders (Local Government: Municipal Infrastructures Act, no 117 of 1998, 1998). Maphazi, Raga, Taylor and Mayekiso (2013) argue that the traditional leadership (also referred as 'amakhosi') is flawed due to weak clear-cut roles and functions. This structure's partisanship compromises the credibility and autonomy of this institution and its leadership.

Several fundamental changes were made to spatial planning and land use management when the Spatial Planning and Land Use Management Act No. 16 of 2013 was introduced. One of the changes gave municipalities and not the provincial government the sole mandate of planning (land development and land use management) which meant that municipalities are now the authorities of first instance (du Plessis, 2018).

The significance of land allocation to traditional leadership would imply that they would not easily give up these functions although the legislation demands inclusive spatial planning and a land use management system (Dubazane & Nel, 2016). The authors further observe that although the land allocation system of the traditional leadership has servicing and financial implications for the municipality, there is little or no communication between the institutions. Municipal planning has no influence on traditional council decisions, which leads to fragmented development (Dubazane & Nel, 2016). Such may result in standoffs between the organs of state which are not resolved due to the weak mechanisms that are applied in conflict resolution (Makoti, 2017).

It is concluded that the success of the planning and implementation of IDPs depends on the collaboration, coordination and cooperation as well as the full active participation of the three spheres of government. It also depends on the direct involvement of the public and other local stakeholders (Mbecke & Mokoena, 2016). Municipalities can address rising budgetary challenges while still meeting new social demands through innovative working approaches to improve efficient service delivery (OECD, 2019).

Hypothesis 3: The ineffective intergovernmental relations result in an increase in the unplanned and uncoordinated expenditure and loss of potential revenue which will lead to financial unsustainability.

2.7 Infrastructure management and financial sustainability

Donald and Hendrickson (2017) indicate that infrastructure investment permits a great variety of economic and social activities which wear out during use, deteriorate over time due to aging and weather effects, and can fail due to extreme stress from events such as earthquakes or floods.

The goals for infrastructure management can be categorized as economic, environmental and social. Donald and Hendrickson (2017) explain them as follows:

- i. *Economic impacts* include the direct and indirect costs of managing and operating the infrastructure system, the economic development potential for the system (including employment) and any user or non-user benefits stemming from the system.

- ii. *Environmental impacts* are associated with the ecological system uses, emissions to the environment (especially toxic chemicals and greenhouse gas emissions), and non-renewable resource use.
- iii. *Social impacts* pertain to the equity of benefits, social justice and individual development (including employment).

This 'Triple Bottom Line' of goals is common for many social investments (Donald & Hendrickson, 2017).

According to the State of Victoria (2015), assets are acquired based on their ability to provide a service to the community. The State of Victoria (2015) further observes that the acquisition and management of all assets should be based on the services that are required. The communities are key partners that need to be included in the identification of service delivery needs and service levels. A council that considers various attributes such as socio-economic, technical and budgetary matters has a better opportunity to identify suitable infrastructure, service delivery standards and maintenance levels of infrastructure assets (State of Victoria, 2015).

Srinivasan and Parlikad (2017: 1) observe that the value generated by an infrastructure asset is, "the benefits arising from the asset to the stakeholders by providing efficient service and effective performance, the risk posed by the asset based on the operation and condition and expenditure incurred by the asset over its life". Srinivasan and Parlikad (2017) also postulate that value-based asset management cannot be achieved when the cost and risks associated with the acquisition and maintenance of assets outweighs the performance benefit that is obtained by the public.

Rama and Andrews (2015) observe that infrastructure assets are maintained to ensure that the required level of service standard to customers is achieved. Vásquez (2015) highlights that the reduction in the frequency of service interruptions increase of customer's satisfaction which in turn increases the rate of payment of services. In contrast, Donald and Hendrickson (2017) assert that a municipality that is unable to raise revenue from service fees and surcharges will not be able to raise sufficient budget for infrastructure maintenance and rehabilitation.

The authors contend that it is critical to consider a life cycle viewpoint rather than obsolescence in the long term rehabilitation investment planning of infrastructure assets. Life cycle analysis requires a municipality to select an appropriate planning horizon and forecast benefits and costs of the infrastructure over that period (Donald & Hendrickson, 2017). Marwala (2020), posits that the 4IR has introduced a predictive maintenance strategy that extends the life of an asset beyond its life cycle. Predictive maintenance enables infrastructure to be tracked during normal operations to avoid failure, resulting in structures that are cost-effective, technologically advanced, and operationally functional (Marwala, 2020).

Ngobese (2018) purports that smaller or rural municipalities are struggling to operate and maintain their services infrastructure in a cost –effective and sustainable manner which results in continued prolonged disruption in service delivery. The maintenance of assets and construction plants are always neglected due to budget constraints, thereby leading to the municipal's failure to respond to elementary operations and maintenance tasks in time (Ngobese, 2018). The destruction of public property is costing municipalities thousands of Rands per incident in direct and indirect costs, despite insurance and municipalities believed

that as part of the solution, community protest would be reduced if ward councillors were functioning (Steyn, 2016).

Maclean (2013) asserts that finance is usually considered to be the overriding factor in determining the viability of local government. According to Maclean, (2013), without sound financial management systems, municipalities will be forced to discontinue their operations and service delivery could collapse. Srinivasan and Parlikad (2017) argue that traditional asset management decisions driven by costs are not effective and efficient. Srinivasan and Parlikad (2017) posit that it is important to understand what constitutes value of infrastructure. The funds that are available are unlikely to always cover the infrastructure maintenance needs which requires the asset owners and managers to justify maintenance needs and modernise the means of managing and extending the infrastructure assets lifespan (Srinivasan & Parlikad, 2017).

It is essential for municipalities to understand the value of infrastructure assets to different stakeholders in order to effectively acquire and maintain relevant assets. This requires municipal engagement with stakeholders in order to collaborate decision making on funding options, service standards required and prioritisation. Adequately maintained assets allow the municipality to provide services which the customers are willing to pay for. The maintenance of infrastructure has a direct influence on customer satisfaction which in turn improves finances as services are paid for.

Hypothesis 4: Infrastructure maintenance has a positive impact on financial sustainability.

2.8 Customer care and financial sustainability

The national governments pursue the goals of economic development through local governments who must provide basic services to their residents (Zakaria, Ngah, Noordin, Sawal & Hussin, 2012). Moffat, Bikam and Anyumba (2017) posit that the households that are unwilling to or those that do not pay for rates and taxes increase the debt owed to the municipality and this negatively affects the total revenue that is generated by the municipality. Nowadays, citizens are often sceptical about the public sector's performance, but they are relatively satisfied with obligatory services when their needs are well received (Zakaria *et al.*, 2012).

Mathabang (2016) asserts that if the quality of service delivery is maintained, the local residents' confidence is boosted and revenue collection increases. Poor performance by municipalities, as seen by inaccurate billing, weak credit control measures and customer service mechanisms may serve to reinforce non-payment, as those consumers that are able to pay become unwilling to pay (Peters, n.d). The value of a municipality lies in the value it creates for its customers and in the value the customers deliver back to the municipality (Dhman, 2011).

According to Duque, Varajão, Vitor and Dominguez, (2013:1), "Customer Relationship Management (CRM) is a business strategy which dynamically integrates a set of services with the purpose of creating value for the organisation and for their customers". Dhman (2011) posits that in an environment where CRM is implemented successfully, the customers' loyalty is boosted, and the payment rates rise.

Citizens Relationship Management (CzRM) provides institutions with an opportunity to better know their citizens' needs and behaviour (Duque, *et al.*, 2013). The lack of effective CzRM

results in; poor collaboration between municipalities and citizens, lack of innovation as well as in greater operational inefficiencies (Duque, *et al.*, 2013).

Haarhoff (2019) argues that the degree to which municipalities understand their stakeholders influences the success of a municipality. Municipalities need to understand the perceptions, needs and attitudes of their stakeholders or they risk their chances of success. Duque *et al.*, (2013) observes that the municipalities which adopted and implemented CRM systems showed better connections with communities and became more knowledgeable of their customer needs due to the higher quality of information that was obtained.

Dhman (2011) identified that CRM is centred on the following variables as shown in Figure 2-9:



Figure 2-9: Customer Relationship Management

Source: Dhman (2011).

According to Dhman (2011), customer satisfaction is achieved when a customer maintains a positive attitude and loyalty towards an institution as a result of service satisfaction. Improving customer relationships and growing loyalty is about the quality of service provided (Dhman, 2011). Ashraf, Moniruzzaman and Quddus (2018) posit that the quality of service is about tangibility, responsiveness, reliability of service, sympathy and logistic support. According to Wiseman (2015), the customers' faith towards a municipality is increased by public engagements and providing feedback on the suggestions provided.

For local government, Dhman (2011) asserts that the customer acquisition starts after provision of services to the customer, and the acquisition strategy must focus on how to ensure that the customer pays for the services rendered. In the South African context, municipalities must also identify indigent customers. Indigent customers are those households that are entitled to free basic services in line with the national policy of 6kl of water and 50KwH of

electricity. In 2017, most municipalities (147 out of 257) classified an indigent household as a family earning a total income of less than R3 200 on a monthly basis (StatsSA, 2018).

Customer retention provides revenue stability or base as it provides the municipality with high devoted customers who pay for the services that they received (Dhman, 2011). The author further argues that customer retention can be achieved once customer satisfaction has been achieved. According to Wiseman (2015), feedback from customers is the method that the government leaders should commit to in order to know their citizens' satisfaction levels.

Customer loss rate measures the, "number of individuals or items moving into or out of a collection over a specific period of time" (Dhman, 2011: 24). In a municipal context, this can be seen as a rate of customers moving off the government electricity grid to individual solar energy and using private boreholes rather than municipal reticulated water which is a possible indicator of customer dissatisfaction (Dhman, 2011). According to du Plooy (2017), continued reduction in solar energy costs will reach a point where customers are able to defect from the grid completely while maintaining reliability and cost certainty. Pieterse (2018) contends that a municipal budget that depends on recovering service debt means that the ability to run the municipality depends on how much residents can consume and pay for the services.

Pieterse (2018) further argues that this is not sustainable as these municipalities are affected by; a culture of non-payment, supply side constraints such as water scarcity or power cuts and economic distress. In contrast to that view, Enwereji and Potgieter (2018) argue that the culture of municipal service payments among residents can be positively influenced by the following factors:

Policies and legislation – These attributes of tax policy such as equity and fairness, convenience and payment, economy of collection, simplicity, neutrality, economic growth and efficiency, open process, stability, payment gap, horizontal equity and vertical equity are viewed as factors that could influence payment compliance and contribute towards establishing a culture of responsible payment for municipal services in South Africa.

Social influence - This concept stresses that the behaviour of a resident in the payment for municipal services is influenced by the social interaction with other residents who do or do not pay for services. Residents are discouraged from paying for municipal services on the discovery that other residents have been avoiding service payment without social sanction and vice versa. In this regard, the implementation of legal action on defaulting residents may influence the payment compliance of residents who do not pay for services.

Deterrence messages - This model states that residents make regular payments believing that the consequent penalty, when caught in the process of avoiding payment, will bring an additional cost.

Fiscal Exchange - Local municipalities will be able to provide services required by residents if residents pay for the services provided while residents will not receive adequate services in the event of consistent defaults.

Payment knowledge - The nature of knowledge and education received by residents is an important dimension that enhances the adequate understanding of the requirements of payment to ensure voluntary payment and improve payment culture.

Budget Transparency - Awareness is created amongst the public about the municipality's past, present, and future fiscal activities, and about the structure and functions of municipalities that determine fiscal policies and outcomes. Other variables such as the accountability of financial budgets, the integrity of municipal budgets, inconclusiveness of budgets, trust in municipal budgets, quality of municipal budgets, and the timeliness of municipal budgets can influence payment compliance for municipal services. Traditional leaders (and other influential persons or groups), municipal role-players, and also the application of emerging innovations and communication options could contribute towards establishing a favourable payment culture.

Service Administration – The effective implementation of factors such as the collection of residents' information, billing, collection, enforcement, customer care, appeals and performance management influence the payment culture of residents.

Wiseman (2015) observes that there is a willingness by public to participate in service delivery inputs or public service delivery initiatives when requested. Dhman (2011) points out that there is a positive relationship between the effectiveness of customer complaint management system and overall customer satisfaction. The author corroborated this view that the successful implementation of CRM is dependent on the following variables:

- i. *People* – The entire organisation must understand and appreciate the value of CRM. An organization's ability to learn may make the difference between it thriving and perishing in the years ahead. Chiguvi, Madondo and Dube (2019) observe that the local government officials' attitude towards clients is negative. Chiguvi *et al.* (2019) further contend that for CRM to be effective, the public organisations' inner culture needs to change and there is a need for the reorientation of the vision.
- ii. *Process* – CRM is not an event but a conscious uninterrupted determination to redesign core business processes from the customers' viewpoint and feedback. Value innovation is created in the region where a company's actions favourably affect both its cost structure and its value proposition to buyers (Kim & Mauborgne, 2005). To reconstruct buyer value elements in crafting a new value curve, Kim and Mauborgne, (2005) developed the four actions framework that can be used to break the trade-off between differentiation and low cost. The authors recognise that the framework identifies processes that can be eliminated, reduced, raised and new ones can be created in order to create new value. Chiguvi *et al.* (2019) argue that this entails that local government resources should be used in such a manner that will fortify and keep gainful clients and simultaneously grow less profitable clients to gainful customers.
- iii. *Technology* – CRM applications take full advantage of technology innovations with their ability to collect and analyse data on customer patterns, interpret customer behaviour, develop predictive models, respond with timely and effective customized communications, and deliver product and service value to individual customers. CRM development is dependent on factors such as innovations in network infrastructure, client/server computing, and business intelligence applications. Wiseman (2015) observes that government use of social media to provide information to the public but is not currently systematic or standardised. According to Marwala (2020), the African continent must invest in technology to preserve its data and digital sovereignty. This can be accomplished by establishing a legislative structure for the use of personal data across African boundaries, as well as educating the citizens about the importance of

understanding the idea of passing private information for email or social media accounts, as well as the consequences of doing so (Marwala, 2020).

Good customer relations management improves faith of the public that government listens and responds to their needs. Customer satisfaction is a level of attitude a customer has towards the municipality when their needs have been met when a service is tangible, of quality and reliable. This then translates in customers' willingness to pay for services. As a result, governments must develop solutions that are co-created with citizens and businesses, user-centric, and enable citizens and private businesses to actively participate in resolving society's most wicked problems using creative new approaches and technologies (Byrne *et al.*, 2018).

Hypothesis 5: Good customer care has a positive influence on financial sustainability.

2.9 Conclusion

This chapter provided a literature review on the constructs that influence financial sustainability namely, public participation, governance structures, IGR, customer care and infrastructure management.

Municipal service delivery can be enhanced through citizen public participation, in order to sensitise the local community on various aspects of service delivery including the maintenance of the facilities provided (Bello, Martin, Juanil & Kasim, 2017). At the centre of these constructs are people, processes and technologies that are applied to facilitate communication and better service delivery.

The next chapter focuses on research design and methodology.

Chapter 3: Research Methodology

3.1 Introduction

This chapter details the research design and the methodology that was applied in this study in order to answer the research questions. It explains the research paradigm, the design methods used, the sources of information and the target population that was used for analysis.

3.2 Research paradigm and design

The research paradigm and design followed the principle of the research onion as depicted in Figure 3-1.

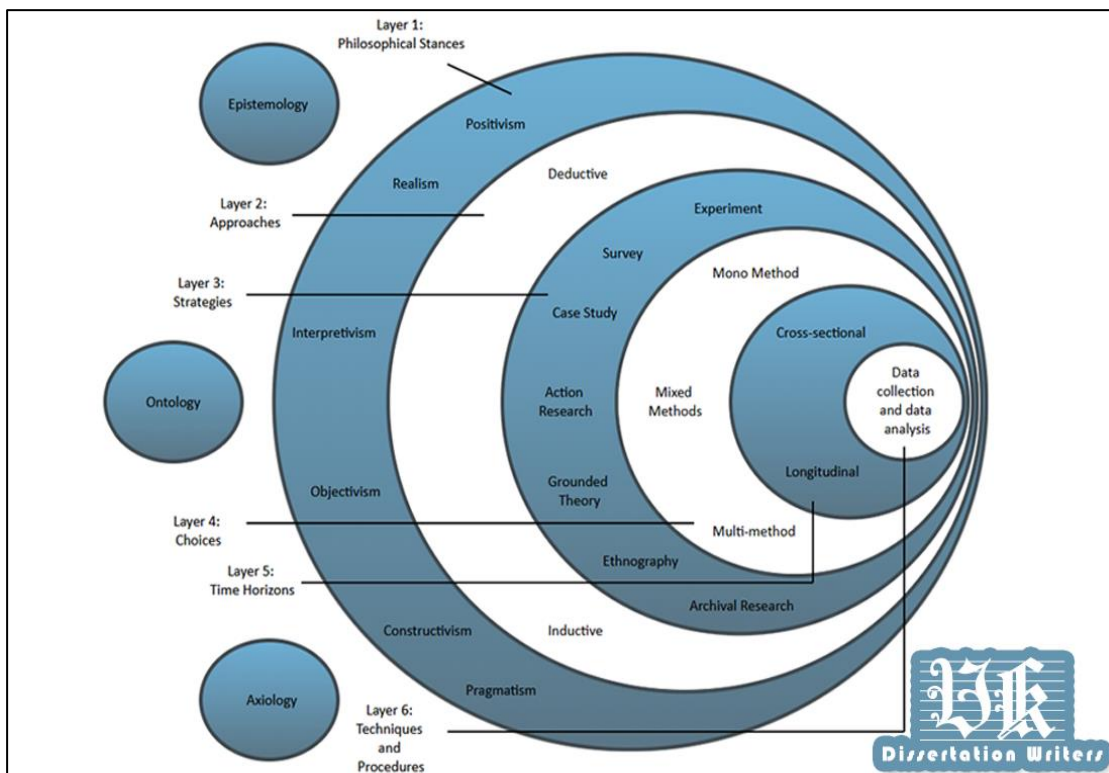


Figure 3-1: Research Onion

Source: <https://www.ukdissertationwriters.com/saunders-research-onion-a-step-by-step-guide-to-structuring-research-methodology-chapter-for-phd-and-master-level-researchers/>

3.2.1 Research paradigm

Kivunja and Kuyini (2017) expound that the research paradigm defines the researcher’s methodological aspects of their research project and explains the research methods that were used and how the data was analysed. Kivunja and Kuyini (2017) further posit that the research paradigm comprises four foundations, namely, ontology, epistemology, methodology and axiology.

3.2.2 Methodology

Rehman and Alharthi (2016) posit that methodology is a technique that directs the researcher on the type of data that is required for a study, and the most relevant data collection tools for the study. It is a logical flow of the systematic processes that are followed in conducting a research project in order to obtain information about a research problem, comprising the assumptions made, the limitations that were faced and how they were lessened (Kivunja & Kuyini, 2017). This study applied a quantitative method. The methodology used in this study is further explained in Section 3.3.

3.2.3 Types of paradigms

According to Rahi (2017), positivism, interpretivism, advocacy, and pragmatism are paradigms that have been widely used. The following paragraphs explain the types of paradigms and section 3.2.4 provides justification of the positivism paradigm used in this study.

Positivism paradigm

Rahi (2017) purports that positivists normally select scientific methods to produce knowledge. The paradigm relies on deductive inference, the formulation of theories, the testing of these hypotheses, the provision of operational concepts and mathematical equations, estimates, extrapolations and expressions to draw conclusions (Kivunja & Kuyini, 2017).

Cohen, Manion and Morrison (2011) highlight that positivism paradigm is underpinned by four assumptions, namely, determinism, empiricism, parsimony and generalizability. Kivunja and Kuyini (2017) interpreted these assumptions as follows:

Determinism refers to the notion that there are external factors that cause the events that the researcher observes.

Empiricism means the ability to investigate a research problem and it depends on the ability to collect verifiable empirical data, which supports the theoretical framework that is chosen for research and enables the testing of the hypotheses formulated.

Parsimony refers to the researcher's attempts to explain the phenomena they study in the most economical way possible.

Generalizability means that the researcher's observation of the phenomena in a particular sample of a population studied, should be able to represent the result of the population.

Interpretive paradigm

Rehman and Alharthi (2016) state that the goal of interpretive research is not to discover new phenomena, perspective and the truth but it is to try to understand the interpretations of individuals about the social phenomena they interact with. Kivunja and Kuyini (2017) corroborate that the aim is to understand the perspective of the subject being observed, rather than the perspective of the observer.

Advocacy/ participatory paradigm

Rahi (2017) points out that advocacy places its research in political and social justice issues whereby a research should contain the agenda of reform that ultimately address the issues of

empowerment, inequality, oppression, domination, suppression, and alienation. Kivunja and Kuyini (2017) view this paradigm as the critical/transformational paradigm.

Pragmatism paradigm

Kivunja and Kuyini (2017) indicate that in pragmatism, the authentic behaviour, beliefs and the consequences that are likely to follow from the different activities of the participants are likely to be observed by a combination of different approaches. Rahi (2017) accentuates that pragmatism is not affiliated to any system or philosophy as researchers are free to use both quantitative and qualitative approaches; the essential is to find the best techniques and procedure of research that solves the problem statement.

3.2.4 Research design

The research design refers to the overall strategy that one may choose to integrate different components of the study in a coherent and logical way (Kenpro, 2012). Akhtar (2016) posits that a research design is a plan of the proposed research work considered to be the 'glue' that holds all the elements in a research project together. The research design is necessary because it makes the various research procedures possible (Akhtar, 2016).

3.2.5 Justification for positivism research paradigm and design

McCombes (2019) postulates that the process of creating a research design requires choosing a research type. The choice of the research type is based on the aim of the research (McCombes, 2019).

The aim of this research was to investigate linkage between public participation and infrastructure development, governance structures, intergovernmental relations, customer care and service delivery infrastructure management to financial sustainability.

The research in its nature was descriptive in that it aimed at describing the relations between the different variables within municipal service delivery and the financial environment. According to Leedy and Ormrod (2010), descriptive research involves identifying the characteristics of an observed phenomenon or it explores the possible correlation between two or more phenomena. Akhtar (2016) argues that if a researcher is studying a community which is familiar and his research area is to represent accurately and in detail the character of a particular institution, group or an event in the community, the suitable research design is called a descriptive research design.

According to Nassaji (2015), the goal of descriptive research is to describe a phenomenon and its characteristics. Nassaji (2015) further elaborated that descriptive research is more concerned with what rather than how or why something has happened by analysing data quantitatively, using frequencies, percentages, averages, or other statistical analyses to determine relationships. The study applied statistical analysis tool to determine the relationship between the identified dependant variable and the independent variables.

Rehman and Alharthi (2016) mention that the research paradigm is how the researcher comprehends ontology, epistemology, methodology and methods when planning to conduct a research. Epistemological and ontological features are mainly concerned with what is generally denoted as an individual's viewpoint, which has a considerable impact on the supposed relative significance of the aspects of reality (Managa, 2018).

This research applied the positivist ontological and epistemological positions. According to Vanson (2014), positivism ontology says that social phenomena have an existence that is independent or separate from the actors within it. The researcher's knowledge is set in the management of municipal finances. The researcher observed that the municipalities in Limpopo are in deeper financial distress despite conditional and unconditional grants from the national government to cushion the financial pressures. The researcher further observed that more attention is placed on financial sustainability with limited focus on various constructs that play a role in municipal finances. Positivist epistemology deals with verifiable observations and measurable relations between those observations (Vanson, 2014). The researcher aimed to be independent from the study through setting hypotheses and obtaining objective responses through an automated method.

Rehman and Alharthi, (2016) indicate that the positivist methodology puts forward hypotheses in propositional or question form about the causal relation between phenomena. McManus, Mulhall, Ragab and Arisha (2017) accentuate that the positivist stance views the social world objectively. It uses deductive hypothesis (explanations) for knowledge acquisition and testing by measuring reality (McManus, Mulhall, Ragab & Arisha, 2017). Rehman and Alharthi (2016) explain that the empirical evidence that is gathered and analysed using deductive approach and formulated in the form of a theory explains the effect of the independent variable on the dependent variable. Rahi (2017) confirmed that the deductive method is generally recommended for specific studies in which the researcher works on particular concept by creating assumptions and then verifying those assumptions.

Researcher identified the hypotheses to be tested. Closed questions on a four-scale hypothesis point were identified and sent to the sample identified by e-mail and social media (whatsapp). A sample size of 122 was used using the judgment sampling technique. Microsoft forms have been used to collect data. The statistical measure used was Cronbach Alpha for reliability test. Correlation co-efficient was applied to obtain an in depth analysis of constructs' relationships. These acted as the foundation for the researcher to apply the quantitative approach. Further detail on this methodology and other concepts are reflected in the next sections.

3.3 Research methodology

There are generally two types of research approaches of collecting and analysing data, namely, qualitative research and quantitative research (Streefkerk, 2019). According to McManus *et al.* (2017), the pure qualitative and pure quantitative research methods used to analyse data are placed at the opposite end of each other. According to Yilmaz (2013), qualitative research explores what it assumes to be a socially constructed dynamic reality through a framework which is value-laden, flexible, descriptive, holistic, and context sensitive from the perspectives of the people involved.

Rahman (2016: 106) expounds that, "quantitative research focuses on those aspects of social behaviour which can be quantified and patterned rather than just finding them out and interpreting their meanings the people bring to their own action". In quantitative research, the measurement and classification requirements of the information that is gathered demand that the study designs are more structured, rigid, fixed and predetermined in their use to ensure accuracy in measurement and classification (Kumar, 2011: 104). The following characteristics of the quantitative method as expressed by Abdulai and Owusu-Ansah (2014) drawn from various literature provide a reason for the researcher to apply the quantitative method:

- i. The constructs that influence financial sustainability were identified prior to conducting the study. The study intended to test the identified variables against the available theory. The statistical procedure was to test the hypotheses.
- ii. The research aimed to be objective by setting hypotheses and obtaining objective responses.
- iii. The research questions were responded to through structured online questionnaires in order to avoid influence on respondents.
- iv. The researchers' values were kept out of the study and reliance was only placed on the results of the questionnaire which were analysed statistically.
- v. Hypotheses were tested using the deductive form of reasoning.
- vi. Hypotheses were identified before beginning the actual study and no changes were made during the study period.
- vii. Questionnaires were used to collect data and the questions were closed-ended with four scale options for responses.

3.4 Sampling design

A sample design is a road map that serves as the basis for the selection of a survey sample and it affects many other important aspects of a survey (Lavrakas, 2008). Kumar (2011) affirms that the two key aims of sampling that need to be achieved are:

- 1) The avoidance of bias in the selection of a sample; and
- 2) The attainment of maximum precision for a given outlay of resources.

The researcher's sampling design is discussed in the following paragraphs.

3.4.1 The target population

Rahi, (2017) defines a population as all people or items that one wishes to understand while sampling is the process of selecting the segment of the population for investigation. A finite population was used for the research. A finite population is said to be finite if it consists of a fixed number of elements so that it is possible to enumerate in its totality (Kabir, 2016). The target population for the research comprised of municipalities within Limpopo Province.

3.4.2 Sample Frame

The sampling frame may be identical to the population, or it may be only part of it and is therefore subject to some under coverage, or it may have an indirect relationship to the population (Lavrakas, 2008). The sample frame comprised of executive management and middle management officials from 27 municipalities within the province.

3.4.3 Sampling size

A sample is part of a population that represents the characteristics of the population (Kabir, 2016). Generally, the larger the sample size, the better the estimation. Leedy and Ormrod (2010) projected that for a population size of around 500 people, at least 20% of the people could be sampled and 400 could be sampled from a population of approximately 5 000 people. In contrast, Kabir (2016) states that larger sample sizes cannot always be used in view of time

and budget constraints. This study's sample size consisted of 122 individuals that were identified from the sample frame.

3.4.4 Sampling method

The researcher applied a judgement sampling technique. The judgment sampling defines a process where the researcher uses their own judgment to select a group of people who know about the problem (Rahi, 2017). Leedy and Ormrod (2010) refer to this as purposive sampling and further emphasise the fact that the researcher should be able to explain the reason for the choice of the sampling method. In this method, researchers should guard against biasness which could possibly, alone or with other conditions distort the quality of data (Leedy & Ormrod, 2010). Tahedorst (2016) confirms that judgement/purposive sampling is used where the researcher includes cases or participants in the sample because they believe that they warrant inclusion.

The identified individuals for the sample are those at a decision-making level and those that are directly or indirectly involved in the planning and implementation of infrastructure, public participation and financial management within the municipality. The researcher's sample was based on the sample frame of executive management and middle management officials in 27 municipalities.

3.5 Data collecting methods and analysis

3.5.1 Collection technique

According to Rehman and Alharthi (2016), questionnaires and open-ended interviews are specific means of collecting and analysing data. In this research, data was collected through a sampling survey. Sampling surveys involve structured questionnaires in order to evaluate people beliefs and attitudes (Rahi, 2017). The data was collected through the use of the questionnaire that was sent electronically to respondents. Microsoft forms were used to conduct the online questionnaire. During the completion of questionnaire, the responses were automatically updated on the LPT server. This method was chosen due to the low risk of manipulation of data. The results of the questionnaire are automatically presented without human manipulation.

3.5.2 Duration of data collection

The online questionnaire was first sent out on the 6th of August 2020 with the due date for submissions set for the 20th of August 2020. Due to an unsatisfactory response, the questionnaire's due date was extended to the 28th of August 2020.

3.5.3 Questionnaire design

"When a question is being constructed, it is critical to ask oneself how the response to that question will help in investigating a particular research objective or part of it" (Abdulai and Owusu-Ansah, 2014: 12). The design is dependent on the researcher's decision to collect quantitative data in order to test specific hypotheses (Sreejesh, Mohapara, & Anusree, 2014). The researcher developed the measurement instruments in order to explore the existing patterns.

The measurement instrument comprised of six sections that were linked to the research objectives as follows:

1. Section A covered the respondents' general information;
2. Section B measured the public's participation influence on the development of the infrastructure;
3. Section C assessed the relationship between the municipal governance structures and financial sustainability;
4. Section D covered the intergovernmental governance relations between national, provincial and local government influence on infrastructure delivery;
5. Section E focused on the linkage between sustainable infrastructure and financial viability, and
6. Section F centred on the relationship between customer care and financial sustainability.

A four-point scale method was applied with the following elements: 1=Not applicable; 2=Below Average; 3=Average; 4=Above Average. The decision to use a four-point scale was to minimise uncertainty in responses. A not applicable scale was used to determine if the respondents view certain processes as not being applied in their municipality. The aim of the questions was to identify the understanding of the respondents' state and behaviour of five identified constructs within the municipality, namely, public participation, governance structures, intergovernmental relations within the three spheres of government, infrastructure maintenance and customer care.

3.5.4 Data analysis

During the data analysis, the five hypotheses were tested against the objectives of the study. The results were exported to a Microsoft Excel workbook without any direct manipulation after the set deadline in order to facilitate the analysis process. The results were analysed and interpreted in order to identify the behavioural patterns through statistical tests such as reliability tests, descriptive statistics and inferential statistics.

3.6 Limitations of the study

Ross and Bibler Zaidi (2019) postulate that the study design, data collection, data analysis and study results are potential restrictions within a research design that may influence the outcomes and conclusions of the research. The following paragraphs outline the limitation in line with Ross and Bibler Zaidi's (2019) identification of limitations.

The study design originates from the researcher's conscious choice to narrow the scope of the study. In this study, the delimitations focused on the middle and top management of the municipality instead of the whole organisation. The biasness was intentional as these officials are charged with responsibilities to review the municipal by-laws and policies with the intention of advising council in line with the relevant legislative prescripts. These officials are also responsible for ensuring that these policies are implemented and yield the intended outcomes.

The research depended on the availability of municipalities' executive management to complete the questionnaire. The expected limitation of the study was that municipalities experiences a high staff turnover rate at executive management level which resulted in identified sampled individuals not being available for the questionnaire. The researcher identified middle management officials who are one level below the strategic management level and who at times are requested to act in the positions of executive management in their absence in order to mitigate this limitation.

Data collection limitation refers to the risk of the researcher's influence on responses provided by the participants. This risk was avoided through the use of online questionnaires which did not require interaction with the researcher on the questions posed.

Ross and Bibler Zaidi (2019) also indicate that some studies remain limited by the use of data collected only from participants who decided to take part in the study despite the application of suitable sampling methods. This limitation was prevalent in the research as respondents were undertaking the study voluntarily and were allowed to leave the study without any explanation. As a result of this limitation, the questionnaire was sent to the sample frame.

Participants may provide biased responses that are positive to the municipality, themselves or the researcher. This challenge was reduced through the comparison of the responses to the literature review.

Data analysis limitation occurs when studies employ unplanned post-hoc data analyses that were not specified before the initial analysis. The analysis of data was carried out as planned through use of IBM SPSS Statistics Version 26.

Satisficing: Barge and Gehlbach (2011) identified that busy respondents and or less serious respondents may take shortcuts, in a number of questions by choosing the same response every time, or skipping items, or by rushing through the instrument, or quitting early in order to conserve effort. In the study conducted, incomplete and those that provided same answers throughout were identified as satisficing. In order to handle the satisficers, those responses were eliminated.

3.7 Ethical consideration

Resnik (2015) suggests that ethics are of importance for the following reasons:

- a) Norms promote the aim of the research such as knowledge, truth and avoidance of error;
- b) To promote values that are essential to collaborative work such as trust, accountability, mutual respect and fairness;
- c) To ensure that the researcher can be held accountable to the public;
- d) Ethical norms build public support for research;
- e) Research norms promote a variety of moral and social values such as human rights.

Vanclay, Baines and Taylor (2013) assert that the principles that guide research include respect for participants, informed consent, voluntary participation and no coercion, participant right to withdraw, preservation of anonymity, and data protection and full reporting methods. The following ethical issues were considered:

- i. Permission to conduct study

The research ethics application forms were submitted to the Da Vinci Institute and the research commenced only after the ethical clearance was obtained.

Permission was obtained from the LPT's head of department in order to utilise the information that is available within the department on municipalities. Permission was also sought to contact the municipality's management and any identified participant for the purpose of study and a request was also made to use the department's email addresses for correspondence.

ii. Participants' informed consent

According to Agunloye (2019), participants require sufficient information to make a judgment to participate or not to participate in the research. Participant consent was provided online. Participants were requested to give informed consent through clicking on the send button after reading the consent form. The consent provided information on the purpose of the study, the reason the respondent was chosen, conditions relating to non-payment of respondents for participating in the study and the maintenance of the respondents' anonymity. The contact details of the supervisor and the researcher were also provided.

iii. Risk considerations

The risk of the research was considered to be low to the participants involved. The foreseeable risk that was identified related to inconvenience as municipalities are at the coal face of service delivery. Municipalities also report to different stakeholder departments on a regular basis. These responsibilities result in municipal officials at a management level to be consistently in meetings and with tight deadlines when executing their daily duties. Participants were required to complete a questionnaire which could cause inconvenience in terms of the time when taking into consideration the above mentioned. The questionnaire involved non-vulnerable adult participants and non-sensitive information.

iv. Maintaining privacy and confidentiality

The questionnaire gave a clear description of the research and the purpose of the study. The questionnaire did not require respondents' personal information to ensure anonymity and were advised that they could leave the questionnaire at any time without any explanation or negative consequences to them.

v. Plagiarism

The risk of plagiarism was reduced through paraphrasing and citation of the author's source. Quotation marks were used and citation provided where a direct quote was made from the author.

3.8 Validity and reliability

The main objective of the questionnaire in research is to obtain relevant information in the most reliable and valid manner (Taherdoost, 2016). Validity is defined as the extent to which a concept is accurately measured in a quantitative study and reliability is the extent to which a research instrument consistently has the same results if it is used in the same situation on repeated occasions (Heale & Twycross, 2015). The components of the questionnaire are validated through Cronbach's Alpha tool.

Krosnick and Presser (2010) point out that there is general support to the notion that reliability and validity is lower for scales with only two or three points compared to those with more points, but they suggest that the gain in reliability levels off after about seven points. The research provided the scale of four points in order to limit vagueness in the insight of the respondents. SPSS version 20.0 was used to test the reliability of the instrument.

3.9 Conclusion

The research design is based on the aim of the research. This chapter articulated the research methodology and the method used to obtain data. The questionnaire was designed in order to obtain an understanding of the constructs that influence financial sustainability. It also provided the risks that were considered. Chapter 4 provides the results of the questionnaire.

Chapter 4: Findings

4.1 Introduction

The previous chapter addressed all systemic and fundamental methodological components applicable to this analysis. The current chapter discusses the methods used to deal with the data obtained for this research. All data was accessed from the study questionnaires that were circulated with a purpose to quantitatively examine the impact of institutional governance structures, intergovernmental relations, infrastructure maintenance and customer relations on the financial sustainability of the municipalities. The target sample frame consisted of senior and middle management officials within the municipalities.

4.2 Demographical information

Section A of the questionnaire presented information on the demographic characteristics of the respondents. In order to understand the general nature of respondents, their socio-demographic profiles were sought. This section of the study presents the demographic profiles information with the intention of providing a profile (without the names) of the respondents who participated in the study. The demographical profiles of the respondents that are presented in this chapter addressed the following attributes pertaining to the respondents: the name of the municipality, the number of years in one's municipality and their position.

4.2.1 Response Rate

The sample size consisted of 122 individuals that were identified from the sample frame of 27 municipalities. These comprised of officials in the executive and middle management levels.

The questionnaire was first sent out electronically on the 07th of August 2020 with the due date for submissions being set for the 20th of August 2020. Due to an unsatisfactory response, the due date was extended to the 28th of August 2020 in order to ensure that an acceptable rate of responses is received in line with the sample size. As a result of the extension, 122 respondents completed the questionnaire.

Saldivar (2012) observed that neither the literature on survey research nor the major research associations nor scholarly journals have produced a universally agreed-upon figure to describe an ideal or even a minimally acceptable survey response rate. Saldivar (2012) further observed that web-based surveys appear to have average response rates that are well below 75 percent as shown in Table 4-1 below.

Table 4-1: Response Rate by Survey mode

Survey Mode	Response Rate
In person	80-85% good
Phone	80% good
Mail	50% adequate, 60% good, 70% very good
Email	40% average, 50% good, 60% very good
Online	30% average

Source: Saldivar (2012)

4.2.2 The name of municipalities

The responses were received from 27 municipalities within the Limpopo Province. The following table shows the number of responses received per municipality.

Table 4-2: Respondents' municipalities

Municipality	Frequency	Percent
Ba-Phalaborwa	4	3.3
Bela-Bela	4	3.3
Blouberg	7	5.7
Capricorn District	8	6.6
Collins Chabane	7	5.7
Elias Motsoaledi	2	1.6
Ephraim Mogale	3	2.5
Fetakgomo - Tubatse	1	0.8
Giyani	2	1.6
Lepelle-Nkumpi	9	7.4
Lephalale	4	3.3
Letaba	2	1.6
Makhado	5	4.1
Makhuduthamaga	4	3.3
Maruleng	4	3.3
Modimolle-Mookgophong	4	3.3
Mogalakwena	2	1.6
Molemole	4	3.3
Mopani District	4	3.3
Musina	6	4.9
Polokwane	8	6.6
Sekhukhune District	6	4.9
Thabazimbi	3	2.5
Thulamela	10	8.2
Tzaneen	2	1.6
Vhembe District	5	4.1
Waterberg District	2	1.6
Total	122	100

The results shown in Table 4-1 show that the majority of respondents were from Thulamela municipality with 8 per cent of respondents, followed by Lepelle-Nkumpi 7 per cent, while all other respondents from other municipalities were between 2 per cent and 6 per cent.

4.2.3 Respondents’ profile

Table 4-3: Respondents’ position

Position	Frequency	Percent
Manager/Head of Unit or Section – Appointed/Acting	62	50.8
Section 56 Manager – Appointed/Acting	60	49.2
Total	122	100

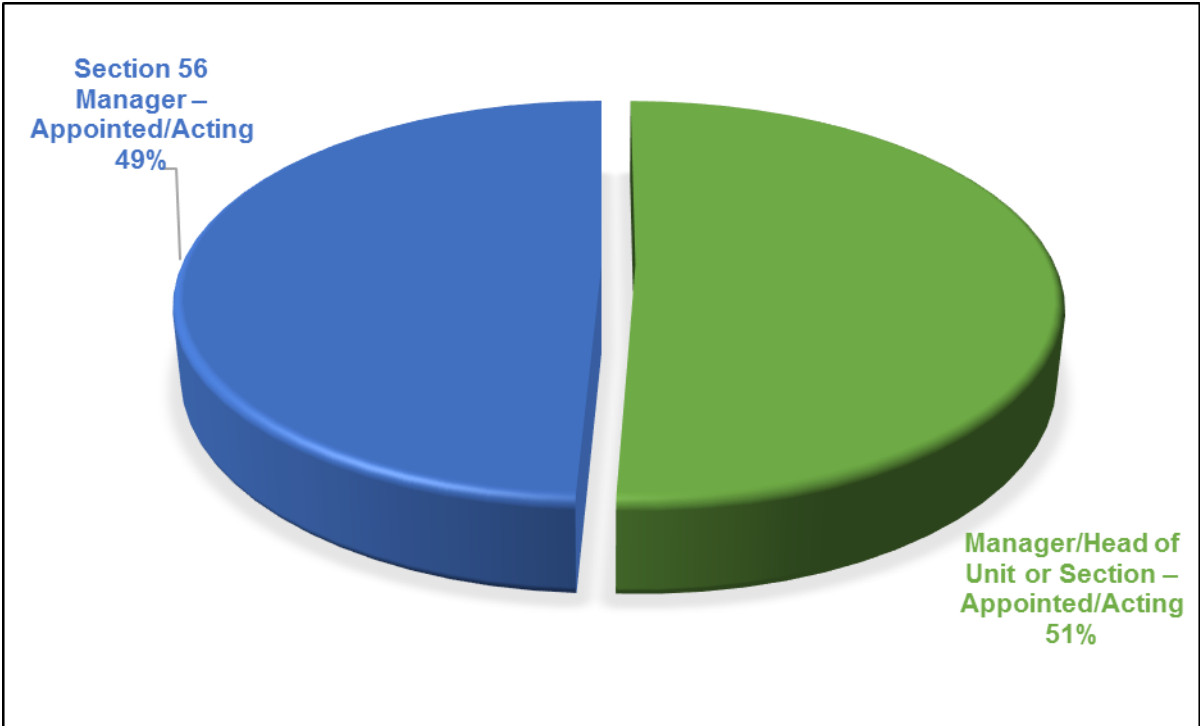


Figure 4-1: Respondents’ position

Section 56 Managers – These executive management officials are responsible for providing guidance to the municipal manager on the strategic and legislative compliance matters that have to do with the municipality, and they support the municipal manager in managing the municipality’s administration.

Heads of Unit/Section – These middle management officials are responsible for ensuring that business processes including internal and financial controls in their area of specialisation are implemented as intended and they report to the executive management. In cases where the executive management position is vacant, these officials are required to act in those vacant positions.

4.2.4 Number of years in local government environment

Table 4-4: Number of years in local government environment

Number of years	Frequency	Percent
+10 years	73	59.8
0 - 3 years	14	11.5
3 - 5 years	8	6.6
5- 10 years	27	22.1
Total	122	100

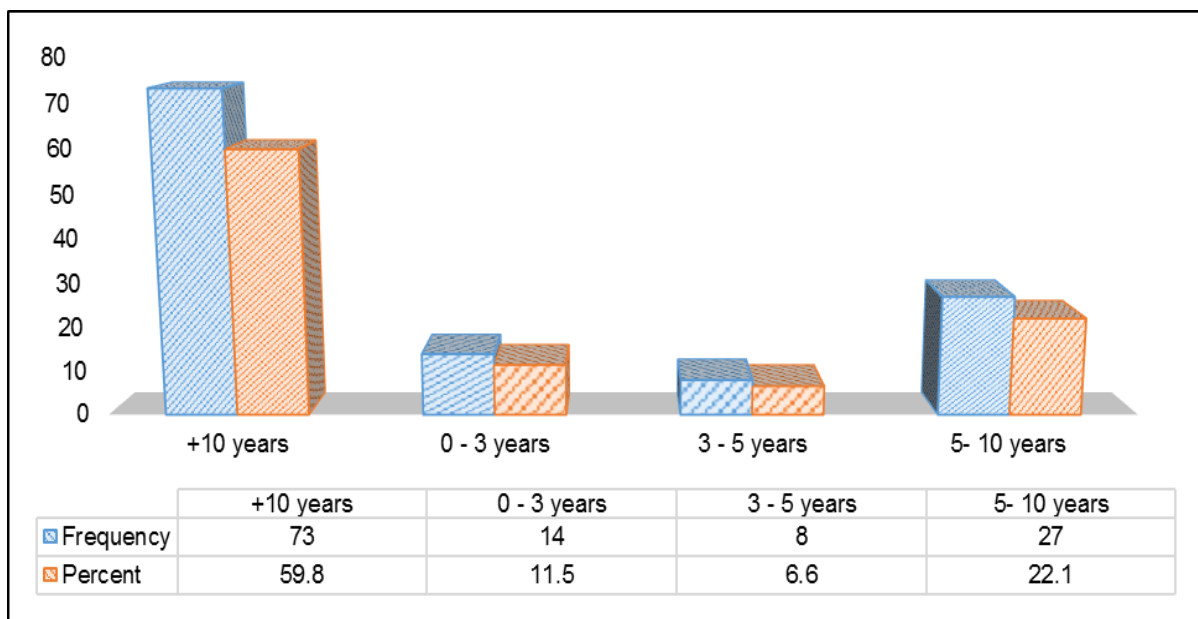


Figure 4-2: Number of years in local government

Figure 4-3 shows that 59.8 percent of the respondents have over ten years' experience in the local government environment whilst 22.1 percent have experience of between 5 – 10 years. A total of 6.6 percent of the respondents have an experience of between 3 – 5 years and 11.5 percent have an experience of not more than three years in the local government environment.

4.2.5 Number of years in your municipality

Table 4-5: Number of years in your municipality

Number of Years	Frequency	Percent
+10 years	45	36.9
0 - 3 years	33	27
3 - 5 years	24	19.7
5- 10 years	20	16.4
Total	122	100

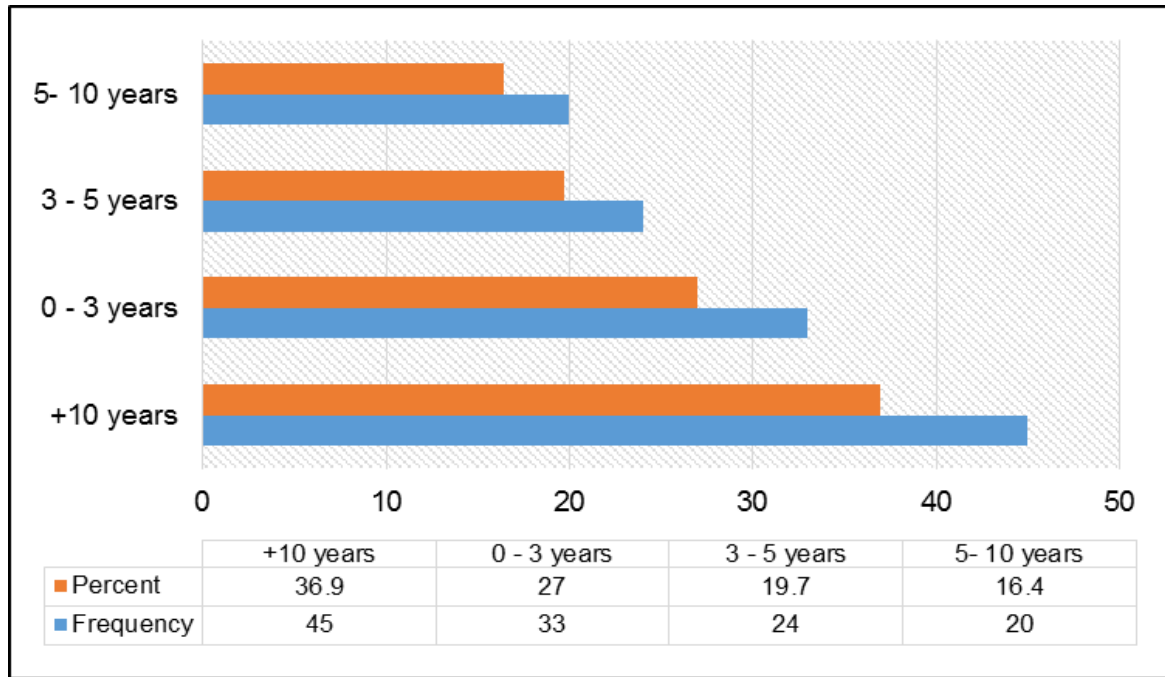


Figure 4-3: Number of years in a municipality

Figure 4-4 above shows that 36.9 percent of the respondents have over ten years working in their current municipality whilst 16.4 percent have experience of between 5 – 10 years, 19.7 percent have 3 – 5 years and the other 27 percent have not more than three years' experience within their current municipality.

4.3 Summary statistics of all variables

Section B-F of the questionnaire dealt with the five study constructs that influence the local government's financial sustainability. The respondents were required to answer questions about their views and understanding of public participation, governance structure, intergovernmental relations, infrastructure management and customer care. Questions in this section intended to determine the constructs of this study, which include but are not limited to:

- i. Public participation (Item B1-B7);
- ii. Governance structure (Item C1-C7);
- iii. Intergovernmental relations (Item D1-D5);
- iv. Infrastructure management (Item E1-E5);
- v. Customer care (Item F1-F7).

The responses are statistically summarised in tables 4-5 to 5-9. Descriptive statistics in a form of percentages were used to analyse the data. The response results are presented in tabular form using a four scale method consisting of not applicable, below average, average and above average respectively. Frequencies are described both numerically and as percentages for all 31 statements sent to the respondents.

4.3.1 Public Participation

Table 4-6: Public Participation

Item No	Statements	Not applicable	Below average	Average	Above average	Total
B1	The municipality has a clear policy for community participation on infrastructure development	2%	10%	45%	43%	100%
B2	The municipality has a formal process of how public comments are received, processed and considered to inform infrastructure development	1%	6%	54%	39%	100%
B3	Community participation process takes into account the special needs of people who cannot read or write and disabilities (blind, wheelchair bound etc.)	3%	24%	42%	31%	100%
B4	The method of sourcing public comments include use of technology (i.e. sms, emails, whatsapp and other social media)	2%	17%	47%	34%	100%
B5	The business community actively participate in planning for infrastructure development process	4%	21%	48%	27%	100%
B6	Traditional authorities provide inputs on the infrastructure development process	2%	16%	39%	43%	100%
B7	Detailed infrastructure development proposed plan per ward is outlined during the participation process for inputs	4%	11%	43%	42%	100%

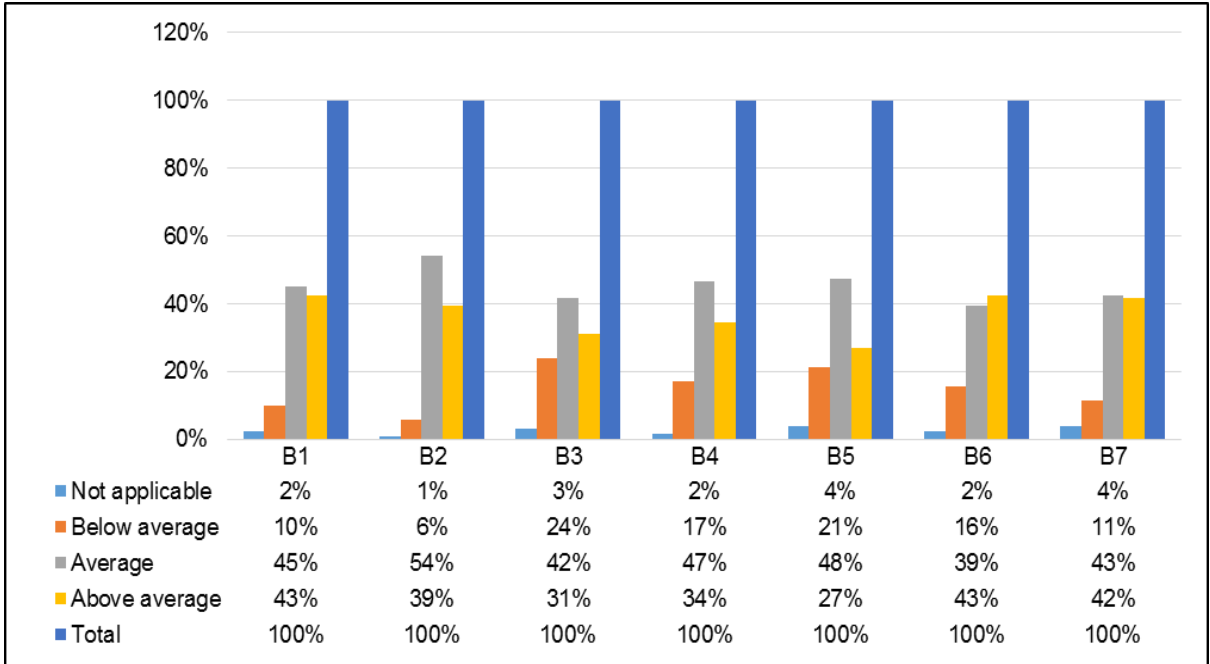


Figure 4-4: Public Participation

This section consisted of seven questions that are related to the public participation’s influence on the development of infrastructure.

A total of 43 percent of the respondents’ satisfaction level with the public participation policy is above average, 45 percent responded that is average with 10 percent on below average and 2 percent indicating that the policy is not applicable. The public participation policy can be viewed as an enabler of building the capacity of the local community to empower it to participate in the affairs of the municipality as required by the Systems’ Act (Local Government: Municipal Systems Act, no 32 of 2000, 2000). Since this is a legislative prescript, a municipality is obliged to put such a policy in place. The respondents’ satisfaction could be an indication of annual reviews and the improvement of the policy over the years.

A total of 54 percent responded that the formal process of how public comments are received, processed and considered is on an “average” level, 39 percent responded to “above average”, 6 percent responded to “below average” and one percent responded that it is “not applicable”. These results show that the respondents appeared to be satisfied with the public participation process as undertaken by the municipalities. Studies observed that in order to guarantee project success, a public participation process avoids project delays that may arise through public objections (Manowong & Ogunlana, 2008). This is confirmed by Pagatpatan and Ward (2017) who indicate that participants appreciate responses on how the public’s ideas and suggestions are used internally by the organisation or externally by the relevant stakeholders. They further posit that the provision of detailed feedback through reports and responses on public inputs that have been considered, accepted and reasons for rejections are a gesture of transparency and accountability to the public.

Of all the respondents, a total of 47 percent highlighted that the sourcing of public comments through the use of technology is on “average”, with 34 percent responding to “above average” and 17 percent responding that it is “below average”. Only 15 percent responded that it is “not applicable”. Marais, Quayle and Burns (2017) argue that the capacity for citizens to participate in decision making processes is dependent on the accessibility to information. This may be an indication of the government’s need to create a comprehensive communications strategy through various engagement tools as indicated by Fiorenza (2013). It is also a requirement by law that municipalities must use their resources to annually allocate funds in the budgets to encourage community participation (Local Government: Municipal Systems Act No 32, of 2000). Studies have shown that in order to reduce time and the cost of public participation, mobile phones are a perfect vehicle for the citizens’ interaction with both the community and the government (Van Belle & Cupido, 2013). Digital technologies allow a more open method for the public to influence their neighbourhood’s future (Wilson *et al.*, 2017). This improves public engagements in planning and decision making. Marwala (2020) however argues that the widespread inequality has led to disparities in access to technology. This may limit inclusivity of communities in public participation. On the other hand, government need to secure data and make it available to enable innovation (Marwala, 2020).

A total of 27 percent of the respondents appear to be satisfied with the level of business community participation in the planning of infrastructure development, with 43 percent of respondents being satisfied with the traditional authorities’ participants. 24 percent responded that the community participation considers the special needs of people who cannot read or write and with disabilities as “below average”, with 42 percent responding to “average” and 31 percent to “above average”. 3 percent responded that the statement was not applicable. These results show an appreciation from the respondents that the municipal’s public participation process needs to be inclusive of all people and in particular those with special needs. This is confirmed by Ngamlana (2019) who points out that the municipalities do not appreciate the value of civil society, academia, the youth as well as ordinary people as they think that they cannot provide innovative solutions to the challenges that affect them as the community. Ngwane (2017) confirms that this exclusion could also be due to the communities’ lack of awareness on their rights to information and obligations.

The traditional authorities’ provision of inputs on the infrastructure development is viewed positively. This could be a result of the explicit requirements in the Systems Act which provides that traditional authorities may participate through their leaders in the proceedings of council (Local Government: Municipal Systems Act, no 117 of 1998, 1998).

The results showed that there is a need to improve the inclusivity of everyone who is affected or interested in public participation through embracing technological solutions in order to harness collective intellect amongst the population for the development of infrastructure.

4.3.2 Governance Structures

Table 4-7: Governance Structures

Item No	Statements	Not applicable	Below average	Average	Above average	Total
C1	The municipality has council approved revenue related by-laws	1%	4%	33%	62%	100%
C2	There is a clear separation of roles between Community Development Workers and Ward Committees	4%	11%	46%	39%	100%
C3	There is a formal system for Community Development Workers to report community matters to the municipality	6%	23%	52%	19%	100%
C4	The ward committees proactively informs their relevant communities on service delivery and financial management issues	7%	22%	52%	19%	100%
C5	Ward committees inform the communities of municipal by-laws to be complied with	8%	43%	35%	14%	100%
C6	Councillors actively encourage communities to pay for services	7%	38%	43%	11%	100%
C7	Councillors provide feedback to communities on quarterly basis on service delivery and financial state of affairs	2%	34%	43%	20%	100%

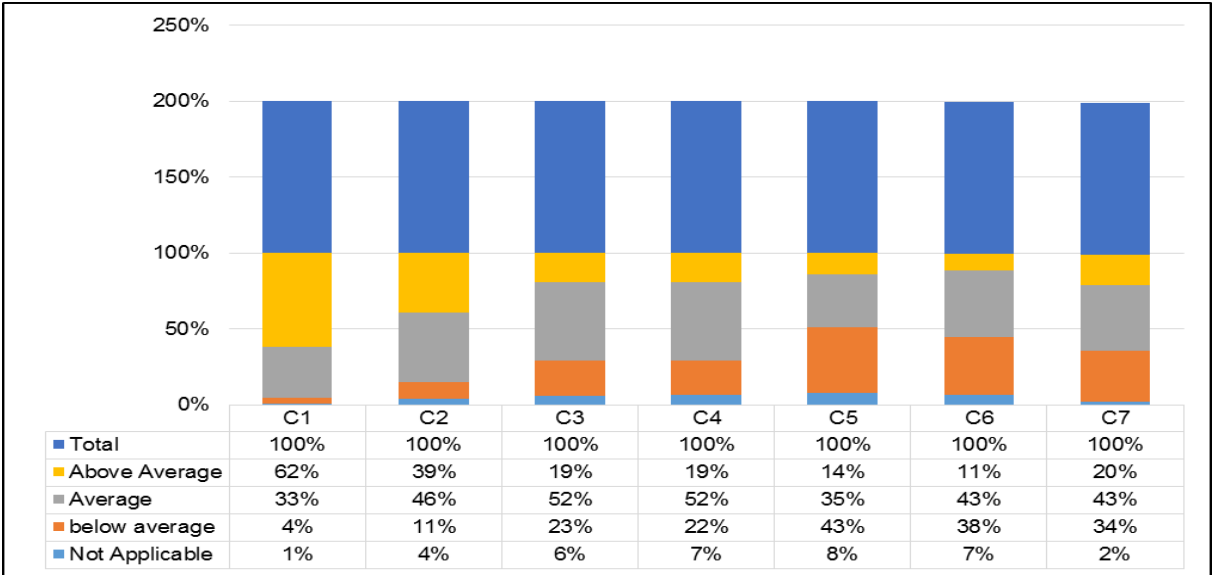


Figure 4-5: Governance Structures

Of all the respondents, 62 percent responded to the statement that council has approved revenue related by-law to be above average, with 33 percent indicating that it is on average, 4 percent said it is below average and one percent said it is not applicable. The revenue related by-laws are a requirement in terms of Section 98 of local government: Municipal Systems’ Act, No 32 of 2000 (s98: 2000).

From all the respondents, 29 percent responded that the clarity on the separation of roles between CDWs and Ward Committees is above average, whilst 46 percent responded that it is on average, with 11 percent indicating that it is below average and only 4 percent indicated that it is not applicable. This is in contrast with Mokoena and Moeti (2017) who observed that the public confuses the roles between the two structures. This statement is supported by Koelble and Siddle (2016) who state that various stakeholders are unclear of the two structures' roles.

The formal systems in place for CDWs to report matters to the municipality is viewed by 52 percent of the respondents to be on an average level, with 23 percent viewing it to be below average compared to the 19 percent who viewed it to be above average. Only 6 percent of the respondents viewed the system as "not applicable". Contributing to the crisis is the ward councillors' loyalty to their political party for their benefit rather than for the benefit of the communities that elect them (Ngamlana, 2019).

The results further revealed that 19 percent of the respondents indicated that the ward committees' proactive communication with the community on the payment of services to be above average compared to the 22 percent who viewed it as below average, with 52 percent of the respondents indicating that the level of communication is on an average level and 7 percent of respondents viewed the communication to be not applicable. 43 percent of the ward committees indicated that the level in which ward committees inform communities of municipal by-laws is below average, with 14 percent indicating that it is above average. Then 35 percent viewed the information sharing to be on an average level. Whilst 43 percent viewed the councillors' feedback to communities on service delivery and financial management on a quarterly basis as below average with only 8 percent indicating that it is not applicable. It is a legal requirement that able customers must pay for the services rendered. The World Bank (2017: 5) argues that the achievement of the full intent of the law is dependent on "commitment, coordination and cooperation as the three core functions of institutions that are needed to ensure that rules and resources yield the desired outcomes". The ward committee and CDWs need to be adaptive and reactive structures that are sensitive to evolving environments by enhancing their ability to collect and disseminate financial and non-financial data for decision making (OECD, 2019).

Of all the respondents, 38 percent viewed the councillors' activeness in encouraging communities to pay for services to be below average, whilst 43 percent indicated that it is on an average level. A total of 11 percent said it is above average whilst 7 percent viewed the councillors' activeness to be below average.

On the statement that councillors provide feedback to communities on a quarterly basis on service delivery and on the financial state of affairs, 34 percent of the respondents viewed it to be below average, 43 percent highlight that it is on average while 20 percent stated that it is above average and 2 percent saw it as not applicable. This could be due to poor governance which results in the high risk of violence and in a decline in municipal service payments and consequent poor service delivery (Dlalisa, 2009). Van Donk and Williams (2015) emphasise that a value-driven system of governance is important as it provides an organisational culture that allows municipal representatives to interact with external stakeholders in a manner that builds its public image and expectations. Siddle and Koelble (2016) observed the absence of consequence management for councillors who breached the code of conduct for councillors as provided by the law. Ward councillors need have the ability to maintain accessible, clear

interactions with variety of stakeholders through different media in order to improve innovation within their wards and ultimately the municipalities (Bryne *et al.*, 2018).

The respondents’ feedback on the governance structures show that these structures are not optimally effective to ensure the improvement of financial sustainability. The results confirm what is mentioned in the literature review that structural flaws contribute to the crisis in South Africa’s municipalities which results in a need for South Africa to devise uniform, simple and clear internal accountability structures for local government (Pieterse, 2018). This would prevent unethical behaviour such as corruption and it would assist in raising municipal revenues and thus contribute towards an improved service delivery (Dlalisa, 2009). Leadership within municipalities need to develop new skill sets in order to improve innovation.

4.3.3 Intergovernmental Relations

This section comprised five statements as indicated in Table 7 below:

Table 4-8: Intergovernmental Relations

Item No	Statements	Not applicable	Below average	Average	Above average	Total
D1	The municipality has a formal process to consult with neighbouring municipalities on infrastructure developmental plans	5%	25%	50%	20%	100%
D2	Infrastructure development of the municipality is integrated with district, provincial and National departments infrastructure plans	0%	19%	46%	35%	100%
D3	Municipality is always aware of the Eskom plans to be implemented in its jurisdiction	1%	13%	48%	39%	100%
D4	All mandates transferred from provincial or national departments are fully funded by the department transferring the functions to the municipality	2%	27%	48%	23%	100%
D5	Management is aware of a process to follow when resolving intergovernmental disputes	0%	11%	52%	37%	100%

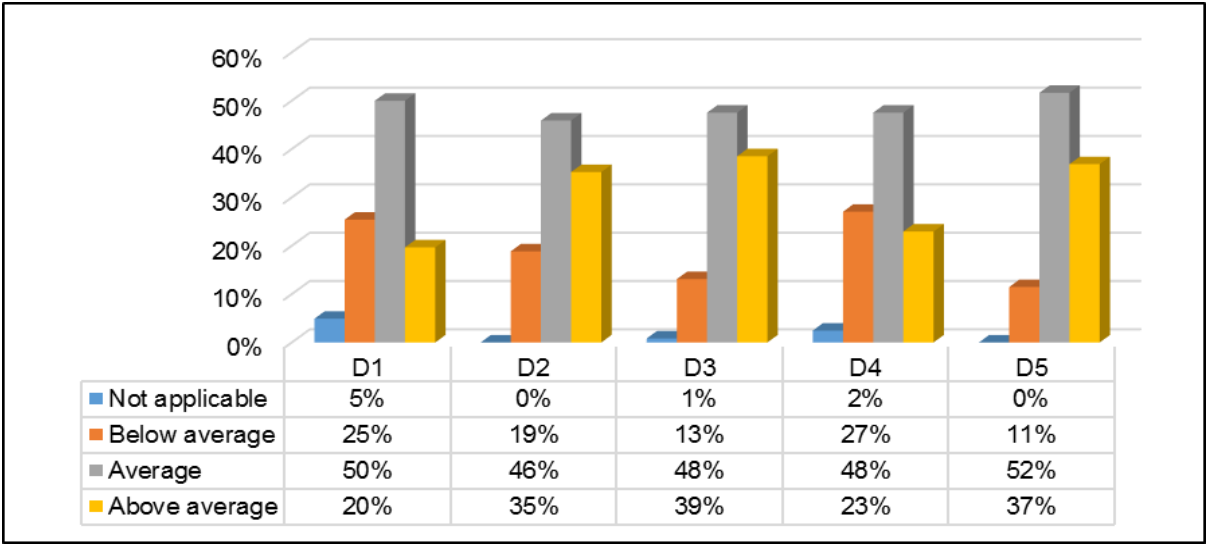


Figure 4-6: Intergovernmental Relations

The results show that 50 percent of the respondents believe that the formal process to consult with neighbouring municipalities on infrastructure development is on an average level with 25

percent of the respondents viewing this process as below average and 20 percent viewed it to be above average. A total of 5 percent of the respondents indicated that the process is not applicable. Legislation requires all spheres of government to coordinate their functions (Intergovernmental Relations Framework Act: No. 13 of 2005). The result could be an indication of a lack of coordination by district municipalities as observed by Magagula *et al.* (2019).

A total of 46 percent of the respondents viewed the integration of the infrastructure development of municipality to the national, provincial and district infrastructure plans to be on an average level with 35 percent indicating that it is above average. Only 19 percent of the respondents viewed the process as below average. This is contrary to a view by Mbecke and Mokoena (2016) that provincial and national governments are not actively involved in the municipalities' planning process thus hampering service delivery. This statement was affirmed by the President of the Republic of South Africa who also confirmed the government's pattern of operating in silos (The Presidency, 12 September 2019). Marwala (2020) also observed that there is no realistic data transfer from one institution to another in South Africa. This results in duplication of information as each institution is likely to create and store the same data in a different format.

The results indicate that 39 percent of the respondents show that their municipalities' awareness of ESKOM projects that are being implemented within their municipal's jurisdiction is above average, 48 percent of the respondents view the awareness to be on an average level with 13 percent indicating that it is below average. This result is contrary to the literature that suggests that there are inadequate intergovernmental relations as indicated in the previous paragraph. It could also be an indication that IGR does sometimes work with certain government institutions.

A total of 23 percent of the respondents' level of confidence indicated that there is a transfer of funded mandates to municipalities by the provincial or national government whilst 48 percent of the respondents indicated that it is on average. Twenty seven percent said it is below average and 2 percent said it is not applicable. Siddle and Koelble (2016) also observed that the lack of clarity about the role of delineation of different spheres of government has led to the fulfilment of responsibilities without budgets. The results of the questionnaire have shown a negative view on the transfer of fully funded mandates from the provincial and the national government.

Based on the results, 37 percent of the respondents have confidence which is above average in that management is aware of the process to follow when resolving intergovernmental disputes. 52 percent showed the confidence to be on an average level and 11 percent advised that it was below average. Geldenhuys (2005), however, remarks that the most comprehensive challenge manifests in the operational environment of the intergovernmental relations and in particular in the management of the mechanisms and the identified action in terms of the IDP process. This is further supported by Makoti (2017) who argues that the current governing laws are failed by the weak mechanisms that are applied. Makoti (2017) further observed that there is a lack of will power from the different role players in order to ensure the improvement of intergovernmental relations as espoused in the constitution. The results show that there is adequate awareness and future research that focuses on the analysis of the effectiveness of the implementation of the process is therefore necessary and recommended.

The results have shown that there is a positive view on the intergovernmental relations between the municipality and other spheres of government, contrary to the literature review that intergovernmental relations are weak. There is, however, an indication that the consultation with neighbouring municipalities needs improvement. This would allow the seamless integration of infrastructure between municipalities in spite of future re-demarcation that could occur.

4.3.4 Infrastructure Management

Table 4-9: Infrastructure management

Item No	Statements	Not applicable	Below average	Average	Above average	Total
E1	The municipality has a maintenance plan for all basic service related infrastructure	4%	35%	50%	11%	100%
E2	The maintenance plan is costed	6%	49%	36%	9%	100%
E3	Funding for maintenance is adequately provided for in the budget	4%	48%	36%	12%	100%
E4	Municipal basic service related infrastructure is maintained in line with maintenance plan	4%	54%	34%	8%	100%
E5	Maintenance plans are updated as and when there is new acquisition or disposal of infrastructure	7%	46%	39%	8%	100%

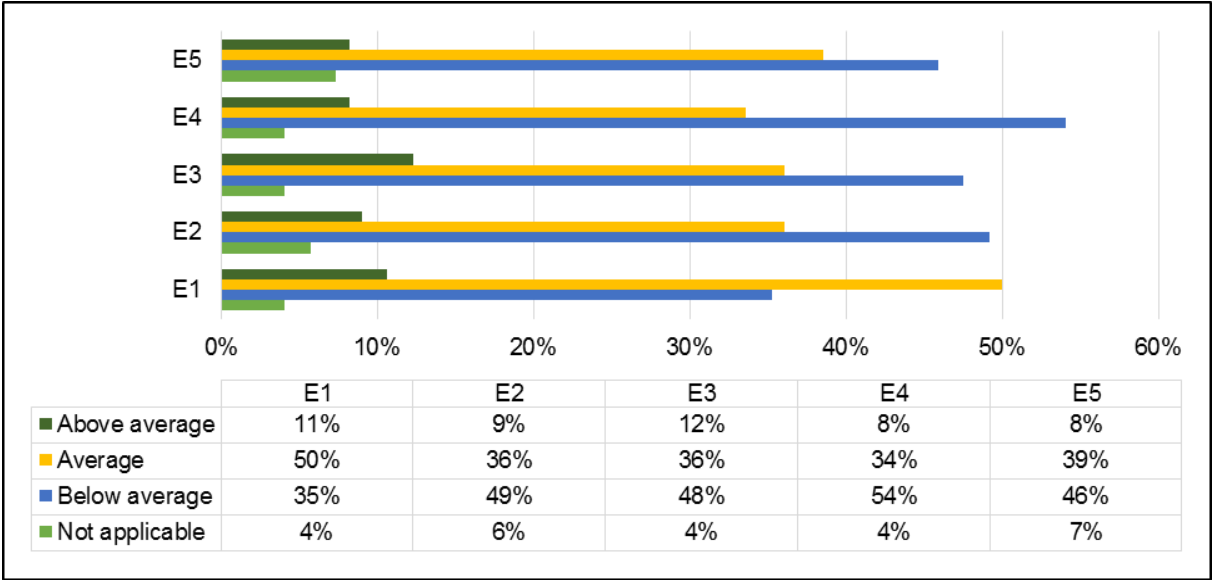


Figure 4-7: Infrastructure Management

A total of 35 percent of the respondents view infrastructure maintenance plans for all basic service infrastructure at below average whereas 11 percent said it is above average. 50 percent indicated that the level of availability of maintenance plans is at an average level with 4 percent indicating that it is not applicable. The State of Victoria (2015) observed that the acquisition and management of all assets should be based on the services that are required. Donald and Hendrickson (2017) note that it is critical to consider a life cycle viewpoint rather than obsolescence in the long term rehabilitation of investment planning of infrastructure assets.

A life cycle analysis requires the municipality to select an appropriate planning horizon and forecast benefits and costs of the infrastructure over that period (Donald & Hendrickson, 2017). The municipality's results could be an indication that the municipal maintenance plans could be lacking adequate planning which would result in ineffective service delivery.

The results showed that the municipal maintenance plan costing is not performed adequately. 49 percent of the respondents showed that it is below average, with 9 percent stating that it was on above average. 36 percent of the respondents said it was on average and 6 percent indicated that the costing is not applicable. Srinivasan and Parlikad (2017) postulate that value-based asset management cannot be achieved when the cost and risks that are associated with the acquisition and maintenance outweighs the performance benefit obtained by the public. This appears to be a missing link in the municipality's maintenance plan. It could also be an indication that municipalities need to plan and implement predictive maintenance that enables infrastructure to be tracked during normal operations to avoid failure, resulting in structures that are cost-effective, technologically advanced, and operationally functional (Marwala, 2020).

A total of 48 percent of the respondents viewed adequate funding for maintenance in the budget as below average, and 28 percent viewed it to be above average. 36 percent indicated that the adequacy of funding is on an average level and 4 percent indicated that it not applicable. This could be the result of the lack of availability of adequate funds to fund infrastructure needs. This is supported by Ngobese (2018) that the maintenance of assets and construction plans are always neglected due to budget constraints, thereby leading to the municipality's failure to respond to elementary operations and maintenance tasks in time.

54 percent of the respondents viewed the maintenance of basic service infrastructure as not being adequately implemented in line with the maintenance plans with a below average score. It is also evident from the results that the maintenance plans are not always updated as and when new acquisition or disposal of infrastructure occurs. 34 percent of the responses were at an average level, 12 percent were at above average and 4 percent was below average. Donald and Hendrickson (2017) assert that a municipality that is unable to raise revenue from service fees and surcharges will not be able to raise sufficient budgets for infrastructure maintenance and rehabilitation. According to the National Treasury (2018), municipalities have insufficient cash coverage to fund their operations which should be at least three months of cash cover. This could be an indication that the municipality does not have sufficient cash reserves to maintain its basic service infrastructure in line with the maintenance plan.

Effective infrastructure management affords a municipality the opportunity to attain economic, environmental and social impacts on its citizens. The economic, environmental and social justice are derived from the effective management of infrastructure which are reliant on rigorous considerations of infrastructure safety, serviceability, reputation and cost. The results showed that 46 percent of the respondents view the maintenance of assets in line with the maintenance plan as below average which poses risks to the achievement of these goals. 39 percent of the recipients said it is on average, with 8 percent indicating that it is above average and only 7 percent saying it is not applicable. It is also unlikely that during poor economic conditions, municipalities would be able to raise sufficient funds to cover all maintenance costs. As a result, innovative solutions need to be implemented on how to prolong the lifespan of these assets such as the reprioritisation between maintenance, rehabilitation of assets, reviewing the asset usage and adopting predictive maintenance strategy to prolong the lifespan.

4.3.5 Customer Care

Table 4-10: Customer Care

Item No	Statements	Not applicable	Below average	Average	Above average	Total
F1	The municipality has documented service delivery standards	3%	23%	38%	36%	100%
F2	The municipality has a feedback mechanism on customer service delivery satisfaction	7%	33%	43%	18%	100%
F3	Service interruptions are communicated timely to the communities through usage of technology (e.g. sms, whatsapp, emails, other social media)	2%	31%	37%	30%	100%
F4	The municipality provides accessible mechanisms to query or verify accounts.	2%	26%	48%	24%	100%
F5	The municipality has a formal process for dispute resolution	3%	25%	54%	18%	100%
F6	The municipality provides accessible mechanisms to appeal dispute outcomes	3%	32%	50%	15%	100%
F7	The municipality has a system to track complaints response turnaround time and efficiency in resolving complaints.	7%	40%	39%	13%	100%

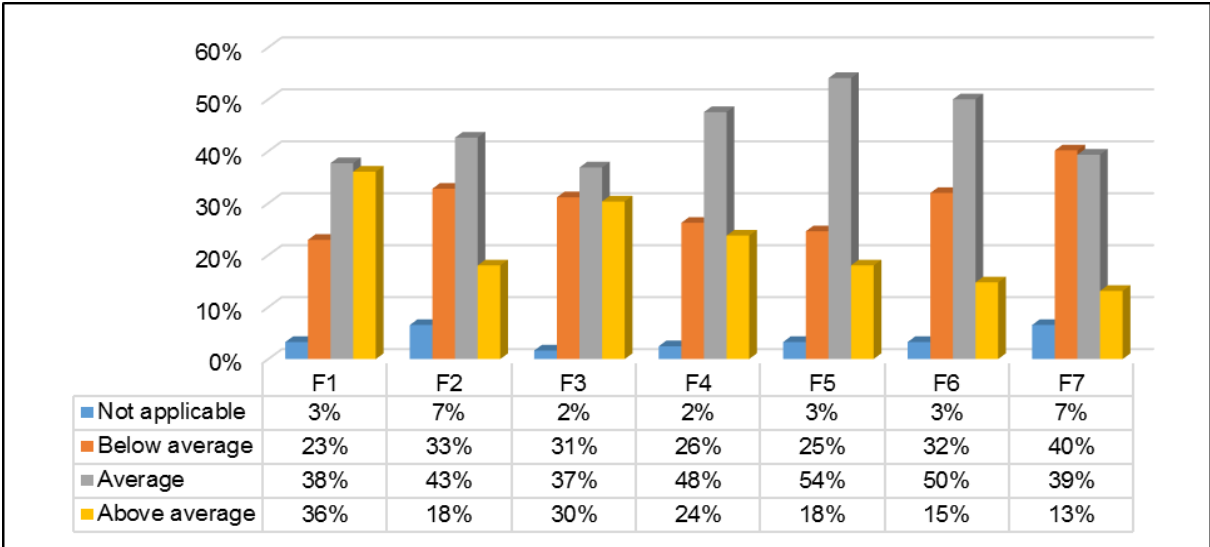


Figure 4-8: Customer Care

Thirty six percent of the respondents’ level of satisfaction is above average on the availability of documented service standard. 38 percent are on average level, 23 percent were below average level and 3 percent indicated that the standards are not applicable.

The result on the statement that the municipality has a feedback mechanism on customer service delivery satisfaction shows that 7 percent of the respondents indicated that it is not applicable, 33 percent indicated that it is below average, 43 percent stated that it is on average and 18 percent highlighted that it was above average.

The results showed that 30 percent of the respondents’ positive view on the municipal service’s interruptions time communication to communities through the use of technology is above 37 percent and this was said to be an average. 31 percent of the respondents, however, indicated that the communication is below average, and 2 percent indicated that it is not applicable.

Timely communication with the community increases public confidence. Duque *et al.*, (2013) observes that the adoption and implementation of CRM systems results in better connections between the municipality and its community and it provides more knowledge on customer needs and the satisfaction level.

Twenty four percent of the respondents indicated that the municipality provides accessible mechanisms to query or verify accessible accounts levels of satisfaction. A total of 26 percent viewed it as below average and 2 percent stated that it was not applicable. 48 percent viewed the accessibility at an average level. Zakaria *et al.* (2012) observe that citizens are often sceptical towards the public sector performance but are relatively satisfied with obligatory services when their needs are well received.

On the statement that the municipality has a formal process of dispute resolution and provides accessible mechanisms to appeal the dispute outcomes, 25 percent of the respondents indicated that the process is below average when compared to 18 percent who view it as above average. 54 percent indicated that the process was at an average level and 3 percent stated that it was not applicable. The appeal process results showed that 32 percent viewed the process as below average, with 50 percent of the respondents indicating that the appeal process is at an average level. 3 percent viewed the process as not applicable and 15 percent viewed it as above average. According to Dhman (2011), customer satisfaction is achieved when a customer maintains a positive attitude and loyalty towards an institution as a result of a sustained level of product or service satisfaction. It could be argued that customers whose disputes are resolved in their favour are likely to view the municipality positively and they might increase the chances of customer satisfaction.

Thirty nine percent of respondents view the tracking systems to be on an average level with 40 percent of the respondents viewing it to be below average. 7 percent of the respondents viewed the tracking system to be not applicable and 13 percent viewed it as being above average. Dhman (2011) points out that the successful implementation of customer relations management is dependent on people, process and technology.

Based on the obtained responses, it is concluded that the municipalities need to improve on the people, process and technology variables that drive the successful implementation of customer relations as identified by Dhman (2011). There is a need to ensure that not only a particular section, but the entire organisation understands and appreciates the value of CzRM. The municipal business processes need to emphasise customer perspectives and involve customer feedback. There is a need to take full advantage of technology innovations in order to improve the ability to collect and analyse data on customer patterns. It is also concluded that customer satisfaction is also influenced by the level of actual service received from the municipality.

4.4 Conclusion

The chapter provided the results of the online questionnaire using Microsoft forms. The research questionnaire circulated to respondents was the source of data used to quantitatively examine the impact of institutional governance structures, intergovernmental relations, infrastructure maintenance and customer relations on the financial sustainability of the municipalities.

Chapter 5: Data Analysis and Results

5.1 Introduction

This chapter starts with a description of the framework used to evaluate and interpret data before identifying the characteristics of the study participants. The study's results are then analysed with the aim of quantitatively examining the impact of institutional governance structures, intergovernmental relations, infrastructure maintenance and customer relations on the municipalities' financial sustainability. The tabular arrangement or diagrammatic format was used to present the study's results.

5.2 Statistical analysis

The researcher was assisted by an academic statistician who is a specialist in quantitative analysis. The expert provided assistance in different fields of research. Secondly, the statistician issued instructions on the relevant research design as well as on the design and installation of the data collection instrument. When the data is ready for review, the statistician offered advice on selecting the most suitable data analysis methods and also advised on how to use the Statistical Package for the Social Sciences (SPSS) software. In addition, the statistician also double-checked the data to see if the interpretations made by the researcher were correct. After the questionnaires were returned, they were screened to exclude those that were incomplete as well as those in which the same question had been answered throughout, suggesting that some of the respondents had not read the questions. This process was immediately followed by the export of data to a Microsoft Excel computer program. The Excel document was then imported into IBM SPSS Statistics Version 26, where it was encoded in preparation for data analysis. The data analysis included a variety of stringent statistical measures, such as reliability tests, descriptive statistics and inferential statistics. The following section highlights a detailed diagrammatic representation of the research direction taken for data analysis in the current study.

5.2.1 Reliability testing

Reliability testing is a mathematical measure that is used to assess the accuracy of the measurement instrument.

5.2.2 Normality testing

A normality test is used to determine whether the sample data has been drawn from a normally distributed population within some tolerance level. Kolmogorov-Smirnov and Shapiro-Wilk were used to test normality.

5.2.3 Descriptive Statistics

Descriptive statistics are tools that help to classify the features or presentation of the sample data (Zikmund, et al., 2013, p. 54). Frequency tables and the mean score rating methodology are the main descriptive statistics used in this analysis.

5.2.4 Frequency distributions

Frequency distributions such as percentages, graphs, line charts, pie charts, histograms and bar charts were used to demonstrate the results of the study. Frequency distributions are used to display absolute and relative magnitudes, variations, proportions and patterns (Zikmund, et al., 2013). These approaches use both horizontal and vertical bars to analyse the various elements of the variable (Malhotra, 2011: 84). The use of frequency distributions was facilitated by 122 respondents.

5.3 Reliability testing

There are various mathematical measures that can be used to assess internal accuracy. Examples of these measures include Average Inter-Item Correlation, Average Item Overall Correlation, Split-Half Precision and the Cronbach’s alpha (Wells & Wollack, 2003: 4). For the purposes of this study, the Cronbach alpha was used as an intrinsic accuracy measure. The Cronbach’s alpha is also called a test of the homogeneity of the element, that is, high alpha values mean that the objects are tapping a similar domain. The size of the Cronbach’s reliability measure varies from 0 to 1. Scores close to 1 mean that the instrument has good reliability and scores close to 0 suggest that the reliability of the instrument is very poor (Wells & Wollack, 2003: 4). Most researchers require a reliability of at least 0.7 before they can use the instrument. In this study, SPSS Version 20.0 was used to test the reliability of the measuring instrument. The Cronbach alpha test conducted in this study proved to be both relevant and realistic in that it offered a description of items inter-correlations that existed between the municipal middle and senior management expectations of their capacity to perform their duties.

Table 5-1: Reliability Testing

	Cronbach's Alpha	N of items
Public participation	0.772	7
Governance structures	0.888	7
Intergovernmental reactions	0.784	5
Infrastructure management	0.884	5
Customer care	0.875	7
Overall	0.94	31

5.4 Normality testing

Table 5-2: Normality testing

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Public participation	0.102	122	0.003	0.972	122	0.011
Governance structures	0.105	122	0.002	0.97	122	0.008
Intergovernmental reactions	0.121	122	0	0.967	122	0.004
Infrastructure management	0.109	122	0.001	0.963	122	0.002
Customer care	0.076	122	0.082	0.98	122	0.064

a. Lilliefors Significance Correction

5.4.1 Graphical representation

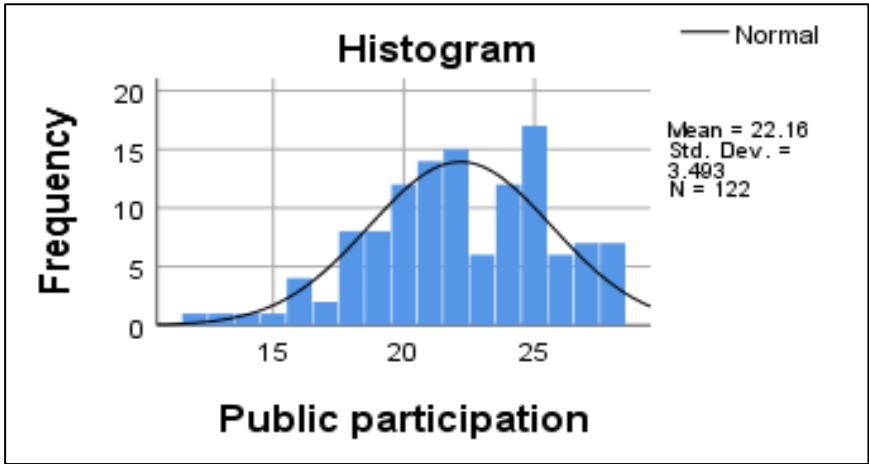


Figure 5-1: Public Participation Histogram

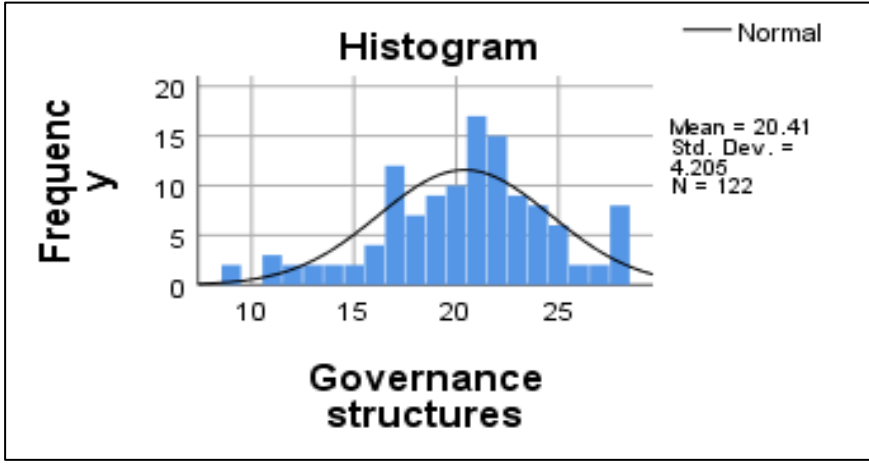


Figure 5-2: Governance Structures Histogram

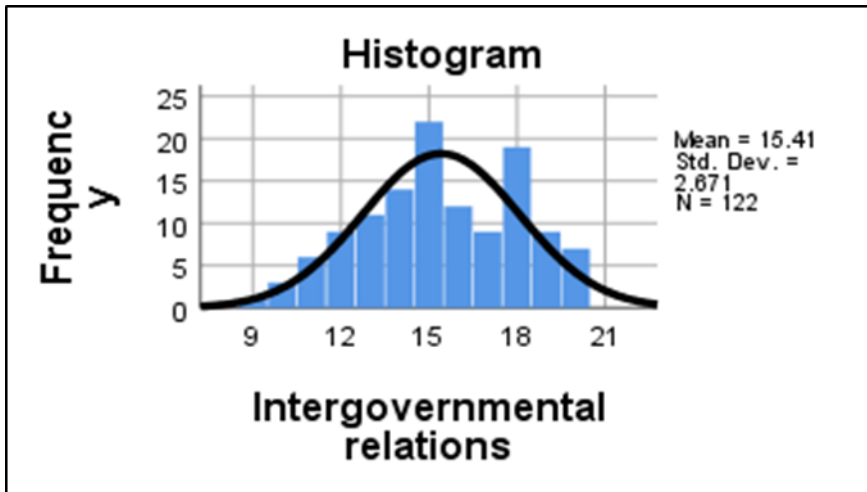


Figure 5-3: Intergovernmental Relations Histogram

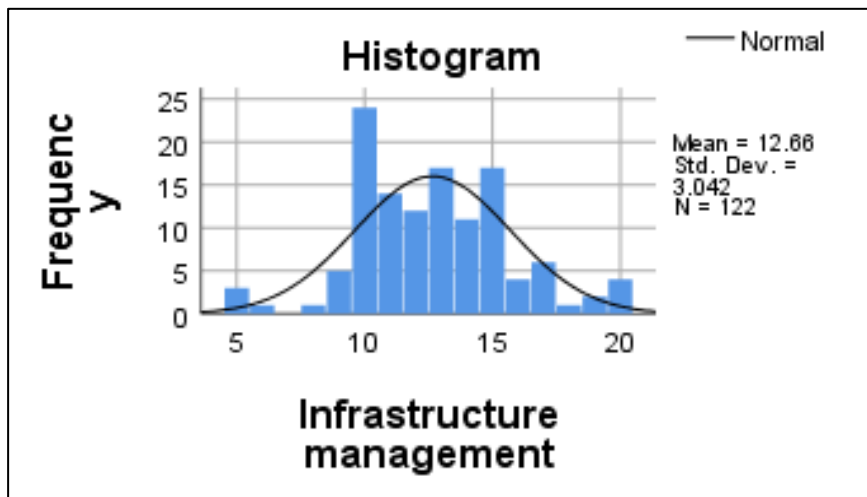


Figure 5-4: Infrastructure management Histogram

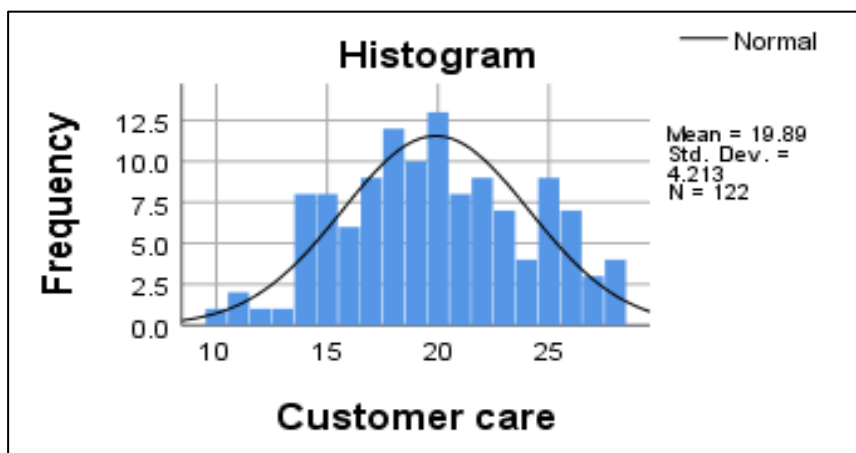


Figure 5-5: Customer care Histogram

All the variables tests are normal because the sig value is below 0.05 for both the test Kolmogorov-Smirnov and Shapiro-Wilk.

5.5 Descriptive statistics

Table 5-3: Descriptive Analysis

	Mean	Std. Deviation	N
Public participation	22.16	3.493	122
Governance structures	20.41	4.205	122
Intergovernmental reactions	15.41	2.671	122
Infrastructure management	12.66	3.042	122
Customer care	19.89	4.213	122

Table 5-4: Correlations

Correlations						
		Public participation	Governance structures	Intergovernmental reactions	Infrastructure management	Customer care
Public participation	Pearson Correlation	1	.625**	.453**	.407**	.568**
	Sig. (2-tailed)		0	0	0	0
	N	122	122	122	122	122
Governance structures	Pearson Correlation	.625**	1	.600**	.419**	.726**
	Sig. (2-tailed)	0		0	0	0
	N	122	122	122	122	122
Intergovernmental reactions	Pearson Correlation	.453**	.600**	1	.522**	.634**
	Sig. (2-tailed)	0	0		0	0
	N	122	122	122	122	122
Infrastructure management	Pearson Correlation	.407**	.419**	.522**	1	.496**
	Sig. (2-tailed)	0	0	0		0
	N	122	122	122	122	122
Customer care	Pearson Correlation	.568**	.726**	.634**	.496**	1
	Sig. (2-tailed)	0	0	0	0	
	N	122	122	122	122	122

** . Correlation is significant at the 0.01 level (2-tailed).

5.6 Hypotheses

The results of the hypotheses tests and t-test are discussed in the section below.

H1_o: Public participation has no positive influence in the development of municipal infrastructure;

H2_o: Poor institutional governance does not erode financial sustainability over a period of time;

H3_o: Ineffective Intergovernmental relations do not lead to financial unsustainability;

H4_o: The maintenance of service delivery infrastructure does not have a positive influence on financial sustainability;

H5_o: Good customer care does not have a positive relationship on financial sustainability.

5.6.1 Descriptive statistics

Table 5-5: Descriptive statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Public participation	22.16	122	3.493	0.316
	Financial sustainability	90.52	122	14.201	1.286
Pair 2	Governance structures	20.41	122	4.205	0.381
	Financial sustainability	90.52	122	14.201	1.286
Pair 3	Intergovernmental reactions	15.41	122	2.671	0.242
	Financial sustainability	90.52	122	14.201	1.286
Pair 4	Infrastructure management	12.66	122	3.042	0.275
	Financial sustainability	90.52	122	14.201	1.286
Pair 5	Customer care	19.89	122	4.213	0.381
	Financial sustainability	90.52	122	14.201	1.286

5.6.2 Correlations

Table 5-6: Correlations

		N	Correlation	Sig.
Pair 1	Public participation & Financial sustainability	122	0.771	0
Pair 2	Governance structures & Financial sustainability	122	0.868	0
Pair 3	Intergovernmental reactions & Financial sustainability	122	0.776	0
Pair 4	Infrastructure management & Financial sustainability	122	0.685	0
Pair 5	Customer care & Financial sustainability	122	0.878	0

5.6.3 Paired sample test

Table 5-7: Paired Sample Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
H ₁	Financial sustainability - Public participation	68.352	11.719	1.061	66.252	70.453	64.423	121	0
H ₂	Financial sustainability - Governance structures	70.107	10.756	0.974	68.179	72.035	71.99	121	0
H ₃	Financial sustainability - Intergovernmental reactions	75.107	12.244	1.109	72.912	77.301	67.754	121	0
H ₄	Financial sustainability - Infrastructure management	77.861	12.319	1.115	75.653	80.069	69.811	121	0
H ₅	Financial sustainability - Customer care	70.623	10.694	0.968	68.706	72.54	72.941	121	0

H1₀: Public participation has no positive influence on the development of municipal infrastructure.

The assumptions of the t test for paired samples were tested based on the visual inspection of the normality of the distribution of the mean level of the impact of institutional governance structures, intergovernmental relations, maintenance of infrastructure and customer relations constructs on the municipalities' financial sustainability (Wagner *et al.*, 2012: 222). There appears to be a significant deviation from normality based on the Figure 5-1. Thus, all assumptions are fulfilled.

Based on the findings of the research, there is insufficient evidence to conclude that public that public participation has no positive influence on the development of municipal infrastructure ($t(121) = 64.423, p=.000$). The mean and standard deviation of public participation on financial

sustainability are $M = 68.352$ and $SD = 11.719$, indicating that public participation has a positive influence on the development of municipal infrastructure, using the 5% level of significance. The null hypothesis is rejected, in favour of the hypothesis.

H2_o: Poor institutional governance does not erode financial sustainability over a period of time

The assumptions of the t test for paired samples were tested based on the visual inspection of the normality of the distribution of the mean level of the impact of institutional governance structures, intergovernmental relations, maintenance of infrastructure and customer relations constructs on the municipalities' financial sustainability (Wagner *et al.*: 2012, p. 222). There appears to be a significant deviation from normality based on the Figure 5-2. Thus, all assumptions are fulfilled.

Based on the results of the study, there is no sufficient evidence to say that poor institutional governance does not erode financial sustainability over a period of time ($t(121) = 71.990$, $p = .000$). The mean and standard deviation institutional governance on financial sustainability are $M = 70.102$ and $SD = 10.756$, indicating that poor institutional governance does erode financial sustainability over a period of time, using the 5% level of significance. The null hypothesis is rejected in favour of hypothesis.

H3_o: Ineffective intergovernmental relations do not lead to financial unsustainability

The assumptions of the t test for paired samples were tested based on the visual inspection of the normality of the distribution of the mean level of the impact of institutional governance structures, intergovernmental relations, maintenance of infrastructure and customer relations constructs on the municipalities' financial sustainability (Wagner *et al.*, 2012: 222). There appears to be a significant deviation from normality based on the Figure 5-3. Thus, all assumptions are fulfilled.

Based on the study's results, there is no sufficient evidence to say that ineffective intergovernmental relations do not lead to financial unsustainability ($t(121) = 67.754$, $p = .000$). The mean and standard deviation intergovernmental relations on financial sustainability are $M = 75.107$ and $SD = 12.244$, indicating that ineffective intergovernmental relations do lead to financial unsustainability, using the 5% level of significance. The null hypothesis is therefore rejected, in favour of the hypothesis.

H4_o: Maintenance of service delivery infrastructure does not have a positive influence on financial sustainability

The assumptions of the t test for paired samples were tested based on the visual inspection of the normality of the distribution of the mean level of the impact of institutional governance structures, intergovernmental relations, maintenance of infrastructure and customer relations constructs on the municipalities' financial sustainability (Wagner *et al.*, 2012: 222). There appears to be a significant deviation from normality based on the Figure 5-4. Thus, all assumptions are fulfilled.

Based on the results of the study, there is no sufficient evidence to say that the maintenance of service delivery infrastructure does not have a positive influence on financial sustainability ($t(121) = 69.811$, $p = .000$). The mean and standard deviation service delivery infrastructure on financial sustainability are $M = 77.861$ and $SD = 17.319$, indicating that the maintenance of

service delivery infrastructure does have a positive influence on financial sustainability, using the 5% level of significance. The null hypothesis is thereby rejected, in favour of the hypothesis.

H5o: Good customer care does not have a positive relationship on financial sustainability

The assumptions of the t test for paired samples were tested based on the visual inspection of the normality of the distribution of the mean level of the impact of institutional governance structures, intergovernmental relations, maintenance of infrastructure and customer relations constructs on the municipalities’ financial sustainability (Wagner *et al.*, 2012: 222). There appears to be a significant deviation from normality based on the Figure 5-5. Thus, all assumptions are fulfilled.

Based on the results of the study, there is no sufficient evidence to say that good customer care does not have a positive relationship on financial sustainability ($t(121) = 72.941, p=.000$). The mean and standard deviation customer care on financial sustainability are $M = 70.623$ and $SD = 10.694$, indicating that good customer care does have a positive relationship on financial sustainability, using the 5% level of significance. The null hypothesis is therefore rejected, in favour of hypothesis.

5.6.4 Regression analysis

The main objective of the regression analysis is to discover whether the coefficients of the independent variables are really different from 0 (so the independent variables are having a genuine effect on the dependent variable). In other words, regression seeks to establish whether any apparent differences from 0 are just due to random chance. The null hypothesis always shows that each independent variable is having absolutely no effect (has a coefficient of 0) and will be looking for a reason to reject this theory. Several regression models were carried out in order to test the relationship between the variables. The regression analysis was carried out at a 5% significance level. The analysis obtained the overview model statistics as shown in Table 5-9 below.

5.6.5 Model summary

Table 5-8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.843	0.86	0.988	0.178	1.076

The research set out to study the constructs that influence the local government’s financial sustainability. The findings showed that there was a positive correlation of ($R = 0.843$) between the dependent variable (financial sustainability) and the predictors. The findings also showed that the value of the modified R-square was 0.860. This means that the predictors (public participation, governance structure, intergovernmental relations, infrastructure management and customer care) can account for 86 % of the change in financial sustainability. A Durbin Waston statistic of 1.076 indicated that the variable residuals were not serially correlated since the value was less than 1.5.

5.6.6 Analysis of Variance

The study sought to validate the fitness of the regression model through the use of the ANOVA statistic. The results of the analysis are shown in Table 5-10 below:

Table 5-9: Analysis of variance

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24396.78	5	4879.36	153648.13	.000 ^b
	Residual	3.684	116	0.032		
	Total	24400.47	121			
a. Dependent Variable: Financial sustainability						
b. Predictors: (Constant), Customer care, Infrastructure management, Public participation, Intergovernmental reactions, Governance structures						

Based on the above ANOVA statistics, it was calculated that the regression model had a significance level of 0.0 per cent which means that the model was suitable for predicting constructs that would affect the financial sustainability of the local government due to a significance value of less than 5 per cent (P=0.000). This means that the model fits the data.

5.6.7 Coefficient of determination

The coefficients of determination were used as indicators of the direction of the relationship between predictors (public participation, governance structure, intergovernmental relations, infrastructure management and customer care) and financial sustainability. The P-value under the significance level section was connected to demonstrate the importance of the connection between the response and the predictor factors. At 95% certainty level, a p-estimation of under 0.05 was deciphered as a proportion of factual significance. As such, a p-value above 0.05 shows a statistically insignificant relationship between the dependent and the independent variables. Table 5-11 gives the results.

Table 5-10: Coefficient of determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.107	0.117		0.916	0.362
	Public participation	0.991	0.006	0.244	161.155	0
	Governance structures	0.999	0.006	0.296	160.782	0
	Intergovernmental reactions	0.982	0.009	0.185	115.504	0
	Infrastructure management	1.009	0.007	0.216	154.865	0
	Customer care	1.012	0.006	0.3	163.555	0

a. Dependent Variable: Financial sustainability

Based on the results above, it is evident that all predictor factors such as public participation, governance structure, intergovernmental relations, infrastructure management and customer care produced positive and statistically insignificant values of this study (High t-value= 161.155 and p=0.000, t-value= 160.782 and p=0.000, t-value= 115.504 and p=0.000, t-value= 154.865 and p=0.000 and t-value= 163.555 and p=0.000 respectively).

The following regression equation was estimated:

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \epsilon_{ij}$$

$$= 0.107 + 0.991x_1 + 0.999x_2 + 0.982x_3 + 1.009x_4 + 1.012x_5$$

Where,

Y = Financial sustainability

X1= Public participation,

X2= Governance structure

X3= Intergovernmental relations

X4= Infrastructure management

X5= customer care

On the estimated regression model above, the 0.107 shows that if predictor factors (public participation, governance structure, intergovernmental relations, infrastructure management and customer) were rated zero, the effect of financial sustainability would be 0.107. A unit increase in all constructs would result in a decrease in municipal financial sustainability by 0.991, 0.999, 0.982, 1.009 and 1.012 respectively.

5.7 Conclusion

This chapter explained the data analysis framework including the interpretation of findings in relation to the hypotheses and the research question. Initially, linear regression was computed

to discriminate between the impact of institutional governance structures, intergovernmental relations, maintenance of infrastructure and customer relations constructs on the municipalities' financial sustainability. Subsequently, descriptive statistics were computed for all the constructs. Moreover, the discriminant validity test indicated that the scales were significantly different from each other in the measurement theory hence there was no severe multi-collinearity.

In contrast, the reliability for all the constructs was greater than .70 thereby indicating the internal consistency of variables within constructs. The results indicated that the Cronbach's Alpha value for each of the constructs ranged from 0.772 to 0.940 hence they were above 0.70 as recommended by literature (Gliem & Gliem, 2003). Two statistical tests, namely the KMO[1] as well as the Bartlett Test[2], were computed to determine the appropriateness of the sampling and to determine that the data obtained in this study were suitable for exploratory factor analysis. The results show that the Kaiser-Meyer-Olkin (KMO) sampling adequacy calculation was measured at 0.888 and the Bartlett Sphericity Test was at substantial p-value = 0.000 and was backed by a calculated Chi-square of 2213.939 at 465 degrees of freedom(df). This result confirmed that the data were appropriate for factor analysis (Field, 2009).

The normality tests indicated that the data that was collated was fairly normally distributed and hence it was appropriate for computing correlations and hierarchical regressions. The Shapiro-Wilk results indicated that the p-value for all constructs was greater than the α -statistic for all the constructs, hence the null hypothesis that the data came from a normally distributed population could not be rejected. The Pearson correlations indicated adequate linear and contingency relationships. Subsequently, the regression analysis was computed. The regression analysis indicated that the institutional governance structures, intergovernmental relations, the maintenance of infrastructure and the customer relations constructs were positively and significantly influenced by the municipalities' financial sustainability ($R = 0.843$ ($R^2 = 86\%$, $p = .000$)). Next chapter will cover the study's conclusions and recommendations.

Chapter 6:

Conclusions and recommendations

6.1 Introduction

This chapter is built up from the previous chapters. It provides the study's conclusions and also includes recommendations for future studies. The goal of the research was to quantitatively analyse the impact of public participation on infrastructure development, institutional governance structures, intergovernmental relations, the maintenance of infrastructure and customer relations constructs' influence on municipalities' financial sustainability. In light of these constructs, the following objectives were formulated:

- i. To understand the influence of public participation in the development of municipal infrastructure;
- ii. To determine the relationship between effective institutional governance structures and financial sustainability;
- iii. To determine the correlation between intergovernmental relations and financial sustainability;
- iv. To determine whether the maintenance of service delivery infrastructure results in financial sustainability;
- v. To determine whether good customer care improves financial sustainability.

6.2 Conclusion

Based on the findings, the following conclusions were drawn in line with the set hypotheses:

H1_o: Public participation has no positive influence on the development of municipal infrastructure

Effective public participation that is inclusive of all interested parties improves the public's confidence in the municipality. It allows the public to have a positive attitude towards the infrastructure and it brings a sense of ownership to the community. This confirmed Hypothesis 1 that public participation has positive influence in the development of municipal infrastructure.

H2_o: Poor institutional governance does not erode financial sustainability over a period of time

Ineffective governance structures expose the institution's weaknesses and they highlight the risk of fraud and corruption, which results in poor public confidence. This subsequently results in the communities' not following up on their obligation to pay for received services. Awareness, education and effective community communication strategies and taking advantage of technological methods of performance of municipal business have the potential to increase the public's willingness to pay for services received. The results confirmed Hypothesis 2: Poor institutional governance erodes financial sustainability over a period of time.

H3_o: Ineffective intergovernmental relations do not lead to financial unsustainability

In the South African context, the intergovernmental relations in government are governed by legislation. Effective intergovernmental relations result in coordinated infrastructure development, which in turn reduces the risks of unfunded mandates and they also increase the ability to redirect funding to revenue generating infrastructures. Poor intergovernmental relations increase the risk of unplanned and uncoordinated expenditure and in the loss of potential revenue which will lead to financial unsustainability. The results confirmed Hypothesis 3: Ineffective intergovernmental relations lead to financial unsustainability.

H4_o: Maintenance of service delivery infrastructure does not have a positive influence on financial sustainability

Infrastructure development and maintenance allows the municipality to fulfil its constitutional mandate of providing basic services to its community. Infrastructure management is key to economic development potential within the municipality. It also impacts on the environmental goals such as the emissions to the environment and the social impacts pertaining to the equity of benefits, social justice and individual development including employment. This is likely to result in a healthy population that has a source of revenue to pay for municipal services. In a case where a municipality budget struggles to maintain its assets, there is service delivery failure, high risk of violent protests and further loss of revenue. This conclusion affirms Hypothesis 4 that the maintenance of service delivery infrastructure have a positive influence on financial sustainability

H5_o: Good customer care does not have a positive relationship with financial sustainability

Customer relations management is a two-way process which requires the provision and receiving of information in order for informed decisions to be made. It is evident that customers require feedback and access to relevant communication which influences a payment culture. It is evident that customer relations management needs to be underpinned by quality and sustainable service provision to the community for it to result in the payment of services. This conclusion supports Hypothesis 5 that good customer care has a positive relationship with financial sustainability.

In summary, the researched constructs' success positively influences the municipality's financial sustainability. The constructs' success is also dependent on the knowledge of the people and their innovative ways of engaging with and providing stakeholders with timely feedback. This would thereby allow the public to co-create with their municipalities in order to obtain better public value and also for optimal use of the available technology when conducting the municipality's business. The weakness in any of these constructs eventually results in poor financial sustainability and in the high reliance of government grants.

Figure 6-1 depicts the final model on how systems thinking is translated into practice in municipalities through the identified constructs.

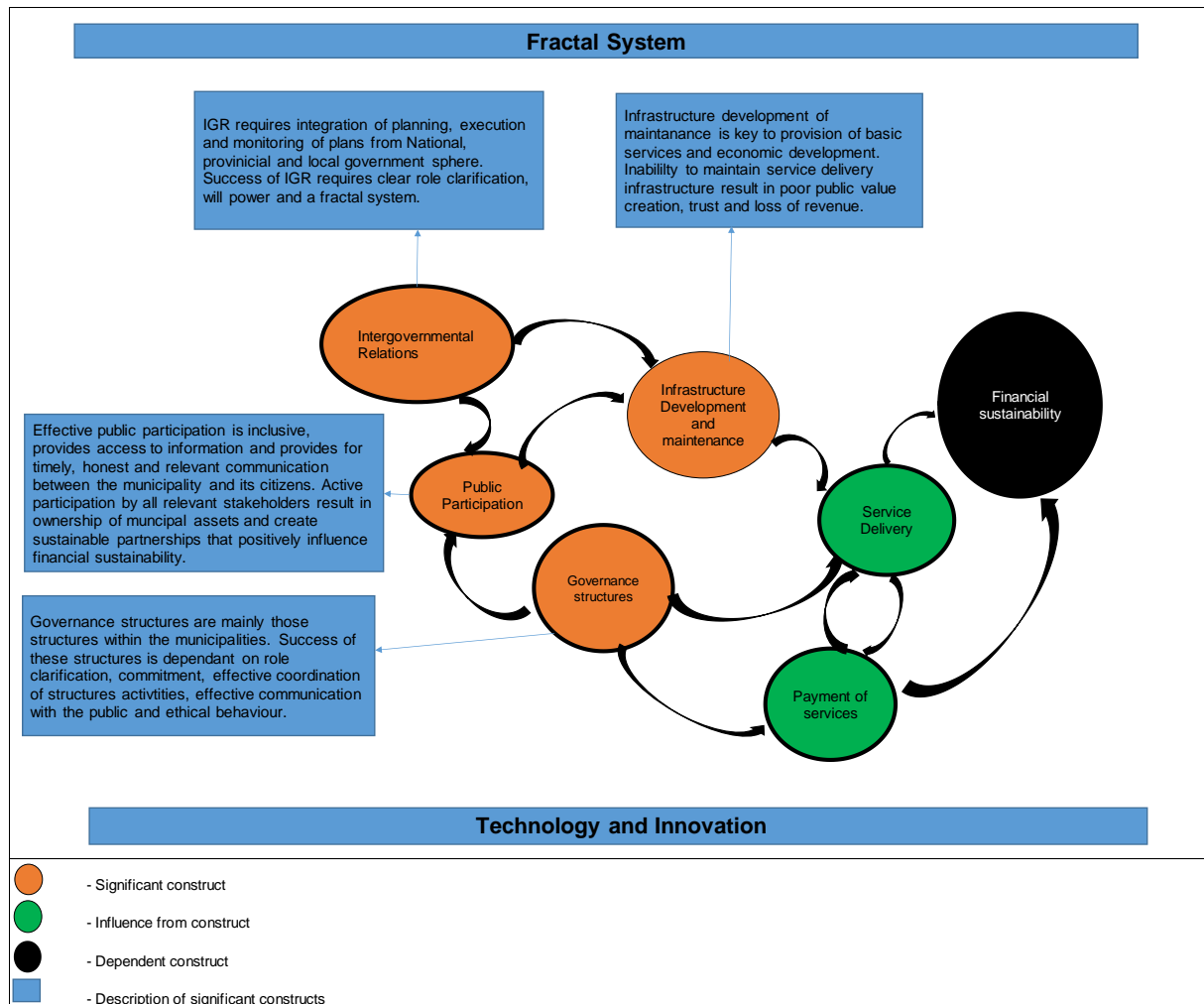


Figure 6-1: Final model on significant constructs

Municipalities need to be fractal like systems to achieve financial sustainability. A fractal system is a dynamic, non-linear, interactive system that can respond to changing circumstances. Such systems are described by their ability to self-organize when operating in a non-equilibrium state (Fryer and Ruis, 2004). The government needs to invest in human capital through a redesigned education system that promotes problem-solving skills, multi-disciplinary skills, and systems thinking to achieve a fractal local government system (Marwala, 2020). Municipal leadership at the political and administrative levels should enhance municipal public education so that residents can participate in the decision-making process and take ownership of their communities' growth.

Availability and management of technology enables communities to innovate in order to develop their municipalities and achieve financial sustainability and, ultimately, their goals. Improvement of stakeholder inclusivity and citizens' capacity to engage requires access to information. People gain awareness and accountability as a result of access to information, which leads to increased public confidence and trust in the municipality. As a result, interaction with and from the municipality is also enhanced, there is a sense of ownership of municipal infrastructure, and service payment. The government needs to invest in cutting-edge technological capabilities that are both accessible and secure for its people in order to ensure

that accurate and timely information is available whenever it is needed. This would strengthen intergovernmental relations, coordination, implementation, and monitoring of plans to ensure that all stakeholders' goals are aligned, while also saving money and enhancing service quality and financial sustainability. The study showed that constructs are interrelated but are all dependant on innovation and technology which requires fractal institutions. This necessitates agile leadership that can connect people, skills, and capital, as well as partner with other organisations and private citizens, to solve complex problems that defy fragmented solutions. Leaders should be able to act in good faith at all times for the benefit of the municipalities and their citizens.

6.3 Lessons learnt

The literature review and results showed that the researched constructs are interrelated. Intergovernmental relations reduce unfunded mandates and the wastage of resources. Effective governance structures and public participation result in an active community that has a positive attitude towards the municipality. Customer relations management also influences the positive attitude towards the municipality and it also promotes loyalty as customers pay for the services, but customer satisfaction cannot be achieved if reliable services are not being provided. Reliable service is dependent on infrastructure development and maintenance which can also not be achieved if the municipality cannot raise sufficient funding for maintenance due to non-payment of services. As a result, the failure of any of the researched constructs would affect the municipality's financial health.

6.4 Future research

The study provided a quantitative understanding of the constructs' influence on the municipal's financial sustainability. It is recommended that further studies can be done and these should have more patterns that can be explored both quantitatively and qualitatively in the following areas:

Public participation – The study focused on municipal officials. It is recommended that a further study must be conducted on public participation patterns from the lens of different stakeholders outside the municipality and focusing on different spheres of government in order to identify and develop new traditions of conducting public participation.

Governance structures – An in-depth study to review the enablers and impediments of the legislation governing the Community Development Workers and Ward Committee system needs to be done and the study should highlight how these can be integrated for public benefit.

Intergovernmental relations – The Cabinet of South Africa adopted the district development model in 2019 to enable government to resolve horizontal and vertical silos with all three spheres of government and partner with communities (Department of Cooperative Governance, 2019). A review of the system of intergovernmental relations in line with the new district coordination model needs to be performed in order to determine its effectiveness and areas of improvement.

Infrastructure management – This study only focused on the benefits of infrastructure maintenance due to financial sustainability. A further study that would review the critical factors of developing and maintaining integrated sustainable infrastructure across municipalities and between different spheres of government taking into account the impact of 4IR would add value to the improved infrastructure management and enhanced service delivery.

Customer Care – A study that reviews how customer satisfaction is influenced by the different constructs that were identified in this study would also add value to the literature.

It is recommended that the above constructs be further investigated against the socio-economic and environmental risk factors that may impact on the municipal's financial sustainability. This would result in literature that provides guidance to holistic and integrated sectorial planning, as well as literature that would guide the implementation and monitoring of resources at a municipal, provincial and national level.

6.5 Conclusion

The study's aims and objectives of quantitatively determining the relationship of constructs to municipal financial sustainability were achieved. Future studies would upsurge the improvement of planning, implementation and the execution of programmes and projects for the benefit of public value with positive influence on the municipal's financial sustainability.

References

- Abdulai, A., & Owusu-Ansah, R. 2014. Essential Ingredients of a Good Research Proposal for Undergraduate and Postgraduate Students in the Social Sciences. *SAGE Open*, July-September 2014: 1 –15.
- African Union Commission. 2015. *Agenda 2063 – The Africa we want*. Available at: <https://www.un.org/en/africa/osaa/pdf/au/agenda2063-first10yearimplementation.pdf> (Accessed: 30 October 2020)
- AGSA. 2018. *Consolidated general report on the local government audit outcomes*. MFMA 2017-18.
- Agunloye, O.O. 2019. Ethics in academic research and scholarship: An elucidation of the principles and applications. *Journal of Global Education and Research* 3(2): 168 - 180
- Akhtar, I. 2016. *Research Design. Research in Social Science: Interdisciplinary Perspectives*. Available at: <https://www.researchgate.net/publication/308915548> (Accessed: 07 June 2020)
- Ardigo, I. A. 2019. *Local government accountability mechanisms Anti-Corruption Resource Centre*. Transparency International. Available at: https://publishup.uni-potsdam.de/opus4-ubp/frontdoor/deliver/index/docId/6337/file/master_muriu.pdf (Accessed: 20 April 2020)
- Arnold, R.D., & Wade, J.P. 2015. A Definition of Systems Thinking: A Systems Approach. 2015 Conference on Systems Engineering Research. *Elsevier, B.V.*,(44): 669–678.
- Ashraf, M., Monuruzzaman, M., & Quddis, S. M. A. 2018. Determinants of quality service provision of local government: Evidence from Bangladesh. Macrothink Institute, *Journal of Public Administration and Governance*, 8(2), 268–383.
- Askarzai, W., & Unhelkar, B. 2017. Research Methodologies: An Extensive Overview Human Journals. *International Journal of Science and Research Methodology*, 6(4): 21–42.
- Augsberger, W., Collins, M.E., & Gecker, W. 2017. *Best Practices for Youth Engagement in Municipal Government, Spring. A Publication of the National Civic League*. 106(1):9-16.
- Barge, S., & Gehlbach, H. 2012. Using the Theory of Satisficing to Evaluate the Quality of Survey. *Research in Higher Education*, 53: 182–200.
- Basdeo, M. 2012. The Impact and Dilemma of Unfunded Mandates Confronting Local Government in South Africa: A Comparative Analysis. *Africa's Public Service Delivery & Performance Review*. Available at: <https://apsdpr.org/index.php/apsdpr/article/view/30> (Accessed: 30 March 2019).
- Bello, M. U., Martin, D., Juanil, D. & Kasim, R. 2017. Municipal Awareness as an Integral Part for Enhancing Citizen Satisfaction of Malaysian Municipal Councils, Batu Pahat. *Traektori? Nauki = Path of Science*, 3(7): 2.1-2.10.
- Brabham D.C. 2009. *Crowdsourcing the Public Participation Process for Planning Projects* Planning Theory 2009 8: 242. Available at <http://plt.sagepub.com/content/8/3/242> (Accessed: 16 April 2020)

Byrne, A., Cunningham, G., Charité, D., Kluge Foss, C. 2018. *Transforming the Public Sector: Delivering Successful Public Sector Transformation through Innovation*, Deloitte. Available at: https://www2.deloitte.com/content/dam/Deloitte/ie/Documents/PublicSector/GovLab_Transforming the public sector_spreads.pdf (Accessed: 25 April 2021).

Chiguvi, D., Madondo, E., & Dube, Z. 2019. The Importance of Customer Relationship Management in the Local Government Authorities in Zimbabwe. *Applied Economics and Finance*, 6(6): 15–29.

Chikere, C.C., & Nokwe, J. 2015. The Systems Theory of Management in Modern Day Organizations - A Study of Aldgate Congress Resort Limited Port Harcourt, *International Journal of Scientific and Research Publications*, 5(9): 1 – 7.

Claassen, L. and Kocks, C. 2016. *Financial sustainability of SA Municipalities: 60% of key local municipalities are in financial trouble!* Ratings Afrika. Available at <https://africacheck.org/uploads/2016/06/Financial-sustainability-of-SA-Municipalities-2015-Final-4-1.docx> (Accessed: 13 May 2020).

Cohen L. Manion L., & Morrison, K. 2011. *The Nature of Enquiry Setting the field. Research methods in education*. 7th ed. London: Routledge.

Colasante, P. 2018. Effective Leadership of Intergovernmental Relations. *Global Encyclopedia of Public Administration*. Available at: https://doi.org/10.1007/978-3-319-31816-5_3597-1 (Accessed: 20 May 2020).

Constitution of the Republic of South Africa, 1996. Available at: <https://www.gov.za/documents/constitution-republic-south-africa-1996> (Accessed on: 25 March 2020).

Department of Cooperative Governance. 2019. Annual Performance Plan 2020/21, available at: https://static.pmg.org.za/COGTA_Annual_Performance_2020-21_content_web_files.pdf (Accessed: 04 November 2020)

Department of Planning, Monitoring and Evaluation. 2019. *Medium Term Strategic Framework 2019 – 2024*. Available at: https://www.dpme.gov.za/keyfocusareas/outcomesSite/MTSF_2019_2024/2019-2024%20MTSF%20Comprehensive%20Document.pdf (Accessed: 04 November 2020)

Dhman, Z. A. Z. 2011. *The Effect of Customer Relationship Management (CRM) concept adoption on customer satisfaction: Customers Perspective*. Thesis. Islamic University-Gaza. *The Case of Coastal Municipalities Water Utility CMWU- Rafah Branch*. Available at: <https://library.iugaza.edu.ps/thesis/94338.pdf> (Accessed: 15 May 2020)

Dlalisa, W. T. M. 2009. *Strategies for Enhancing Good Governance in South African Local Government*. Available at: <https://scholar.sun.ac.za/handle/10019.1/1542> (Accessed: 18 April 2020).

Donald, C., & Hendrickson, C. 2017. *Fundamentals of Infrastructure Management*. Pittsburgh, Pennsylvania, USA. Available at: <https://doi.org/10.1184/R1/5334379.v1> (Accessed: 04 May 2020).

Don-Solomon, A., & Eke, G. J. 2018. Ontological & Epistemological Philosophies underlying Theory Building: A Scholarly dilemma or axiomatic illumination, *The Business Research Perspective. European Journal of Business and Innovation Research*, 6(2): 1–7.

Du Plessis, E. W. J. 2018. An overview of land use management and the role of traditional leaders in terms of SPLUMA. *Traditional Leadership*. North West University. Available at: <http://law.nwu.ac.za/vulnerable-societies/traditional-leadership> (Accessed: 13 May 2020).

Du Plooy, J. 2017. *The Effect of small-scale embedded power generation on the distribution of electricity: An ESKOM Survey*. Dissertation. Da Vinci Institute of Technology Management. Available at: <http://www.openthesis.org/> (Accessed: 31 March 2020)

Dubazane, M., & Nel, V. 2016. The Relationship of Traditional Leaders and the Municipal Council concerning Land Use Management in Nkandla Local Municipality. *Indilinga - African Journal of Indigenous Knowledge Systems*, 15(3): 222–238.

Duque, J., Varajão, J. Filipe Vitor, F. & Dominguez, C. 2013. Implementation of CRM systems in Portuguese Municipalities, *Local Government Studies, Taylor and Francis Online*, 39(6): 878 – 894.

ELLA. 2016. *Increasing Citizen Participation in local Governance: Latin America's Local Citizen Council*. Available at: http://ella.practicalaction.org/wp-content/uploads/files/120716_GOV_CitPar_%20BRIEF2_0.pdf (Assessed: 28 May 2020)

Eisenstein, L. 2019. *Why Is Transparency Critical in Local Government?* Available at: <https://insights.diligent.com/public-transparency-local-government/why-transparency-critical-local-government/> (Accessed: 15 June 2020)

Enwereji P. C. & Potgieter, M. 2018. Establishing a Payment Culture for Municipal Services in the North West Province: A Conceptual Framework. *International Journal of Economics and Financial Issues*, 8(3):227-234.

Etikan, I., Musa, S. A., & Alkassim, R. S. 2016. Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, 5(1): 1–4.

Fiorenza, P. 2013. *How Can We Improve Citizen Engagement Initiatives? Here's Ways, Citizen Engagement, Communications*. Available at: <https://www.govloop.com/how-can-we-improve-citizen-engagement-initiatives-heres-5-ways/> (Accessed: 26 April 2020).

Fryer, P. & Ruis, J. 2004. *What are Fractal Systems? A brief description of 'Complex Adaptive and Emergent Systems' (CAES)*. Available at <http://www.fractal.org/Fractal-Systems.htm> (Accessed: 24 February 2021)

Geldenhuys, A. J. 2005. Actions for local government excellence in the intergovernmental relations in South Africa. *Interim: Interdisciplinary Journal*, 4(2): 51–66.

Haarhoff, K. J. 2019. *Stakeholder Relationship Management as a Tool for Municipal Public Value Generation: A Case Study of Five Municipalities in the Western Cape*. Thesis. Stellenbosch University. Available at: <http://hdl.handle.net/10019.1/107057> (Accessed: 20 August 2020)

Hajilou, M. Mirehei, M, Amirian, S. & Pilehvar, M. 2018. Financial sustainability of municipalities and local governments in small sized cities: A case of Shabestar municipality.

Lex Localis. Available at: <https://www.researchgate.net/publication/322900121>.
(Accessed: 18 June 2020)

Heale, R., & Twycross, A. 2015. Validity and reliability in quantitative studies, *Research Made Simple. Evidence-Based Nursing*, 18(3): 66–67.

Heldt, S., Budryte, P., Ingensiep, H.W., Teichgraber, B., Schneider, U. & Denecke, D. (2016) Social pitfalls for river restoration: How public participation uncovers problems with public acceptance, *Environ Earth Science*, 27 June 2016.

Imenda, S. 2014. Is There a Conceptual Difference between Theoretical and Conceptual Frameworks? *Journal of Social Sciences*, 38(2): 185–195.

Intgrty. 2016. The research paradigms: Positivism. *Publishing and the Mentoring Network Journal*. Available at:
<https://www.intgrty.co.za/2016/07/19/the-research-paradigms-positivism/> (Accessed: 20 June 2020).

Ismail, W. A. W., & Said, I. 2015. Integrating the Community in Urban Design and Planning of Public Spaces: A Review in Malaysian Cities. *Procedia - Social and Behavioral Sciences*, 168: 357–364.

Jabareen, Y. (2009). Building a Conceptual Framework: Philosophy, Definitions, and Procedure. *International Journal of Qualitative Methods*. Available at:
<https://journals.sagepub.com/doi/pdf/10.1177/160940690900800406> (Accessed: 18 February 2018).

Kabir, S. M. S. 2016. *Basic Guidelines for Research: An Introductory Approach for All Disciplines*. Chittagong: Book Zone Publication.

Kakande, A. 2019. Civic Participation: How to Use Technology to Participate. Available at:
<https://medium.com/policy/civic-participation-how-to-use-technology-to-participate-cf66c8e22c6d> (Accessed: 19 April 2021)

Kaseya, C. N., & Ephantus, K. 2016. Factors Affecting the Effectiveness of Public Participation in County Governance in Kenya: A Case of Nairobi County. *International Journal of Scientific and Research Publications*, 6(10), October 2016.

Kenpro, 2012. *Research Designs and Methodology*. Available at:
<https://www.kenpro.org/research-design-and-methodology/> (Accessed: 20 May 2020)

Kim, W. C., & Mauborgne, R. 2005. *Blue Ocean Strategy: How to Create Uncontested Market Space and Make the Competition Irrelevant*. Boston: Harvard Business School Publishing Corporation.

Kivunja, C., & Ahmed Bawa Kuyini, A. B. 2017. Understanding and Applying Research Paradigms in Educational Contexts. *International Journal of Higher Education*, 6(5): 26–41.

Krosnick, J. A., & Presser, S. 2010. *Handbook of Survey Research*. 2nd edition. West Yorkshire: Emerald Group Publishing.

Kumar, R. 2014. *Research Methodology, a step by step guide to beginners*, 3rd edition. Available at: <https://www.pdfdrive.com/research-methodology-a-step-by-step-guide-for-beginners-d18463258.html> (Accessed: 20 June 2020)

Lavrakas, P. J. 2008. *Encyclopedia of survey research methods (Vols. 1-0)*. Thousand Oaks, CA: Sage Publications, Inc. Available at: <https://doi.org/10.4135/9781412963947> (Accessed: 15 June 2020)

Leedy, P. D., & Ormrod, J. E. 2010. *Practical Research: Planning and Design*, 9th edition. Essex: Pearson Education Limited.

Legacy, C. 2018. *Shunning citizen engagement in infrastructure planning weakens democracy*. Available at: <https://www.bangthetable.com/blog/shunning-citizen-engagement-infrastructure-planning-weakens-democracy/> (Accessed: 11 April 2020).

Lekala, E. 2019. *Investigating Good Local Governance for Developmental Local Government: The Case of Prince Albert Municipality*. Thesis. Stellenbosch University. Available at: file:///C:/Users/82504393/AppData/Local/Temp/lekala_good_2019-1.pdf (Accessed: 19 July 2020)

Limpopo Provincial Government. 2014. Limpopo Development Plan (LDP) 2015 – 2019.

Limpopo Provincial Treasury. 2020. *State of municipal finances including S71 reports for the period ending 31 December 2019*. Available at: http://www.limtreasury.gov.za/lim_admin_trea/pages/sites/treasury_lim/documents/financial_statement/Consolidated%20state%20of%20municipal%20finanes%2023%20April%202020.pdf (Accessed: 19 February 2021)

Local Government: Municipal Systems Act, No. 32 of 2000. Available at: <https://www.gov.za/documents/local-government-municipal-systems-act> (Accessed: 15 March 2020)

Local Government of Victoria. 2015. Local Government Asset Management. *Better Practice Guide*. Melbourne: State of Victoria. Internal Report. Available at: https://www.localgovernment.vic.gov.au/__data/assets/pdf_file/0035/48599/Local-Government-Asset-Management-Better-Practice-Guide.pdf (Accessed: 16 April 2020).

Maclean, S. 2013. *Assessing Financial Viability of Selected Urban and Rural Municipalities in the Eastern Cape*. Thesis. University of Fort Hare. Available at: <https://www.semanticscholar.org/paper/Assessing-financial-viability-of-selected-urban-and-Maclean/e5ba0c6189977a74e154a25cc364893989b5c34b> (Accessed: 09 November 2020)

Magagula, D. N., Mukonza, R. M., Manyaka, R. K., & Moeti, K. B. 2019. Towards strengthening collaboration between district and local municipalities in South Africa: Insights from Ehlanzeni District Municipality? *The Journal for Transdisciplinary Research in Southern Africa*, 15(1): 673.

Malhotra, N. K., 2011. *Basic marketing research*. 4 ed. Eaglewood Cliffs: NJ: Prentice- Hall.

Mailovich, C. (2019). *What VBS says about SA's struggling local government sector*. Available at: <https://www.businesslive.co.za/fm/features/2019-10-03-what-vbs-says-about-sas-struggling-local-government-sector/> (Accessed: 23 June 2020).

Makoti, M.Z. 2017. *Intergovernmental disputes between the provincial and local governments in South Africa: Impediments to good governance and socio-economic development*.

Available at:

http://ulspace.ul.ac.za/bitstream/handle/10386/2552/makoti_mz_2017.pdf?sequence=1&isAllowed=y (Accessed: 27 May 2020).

Malhotra, N. K. 2011. *Basic marketing research. 4th edition*. Eaglewood Cliffs: NJ: Prentice-Hall.

Managa, V. M. 2018. *Asset Infrastructure Management in Limpopo Operating Unit*. An Eskom Survey. Thesis. The Da Vinci Institute for Technology Management: Available at: <http://www.openthesis.org/> (Accessed: 21 March 2020)

Manowong, E., & Ogunlana, S. O. 2008. Critical factors for successful public hearing in infrastructure development projects: a case study of the On Nuch waste disposal plant project. *The International Journal Construction Management*, 8(1): 37–51.

Maphazi, N. Raga, K. Taylor, J.D. & Mayekiso, T. 2013. *Public participation: A South African local government perspective*. Available at: <http://hdl.handle.net/2263/58056>. (Accessed: 05 April 2020).

Marais, D.L., Quayle, M. & Burns, J.K. 2017. The role of Access to Information in Enabling Transparency and Public Participation in Governance: case study of Access to Policy Consultation Records in South Africa. *African Journal of Public Affairs*, 9(6), March 2017.

Marwala, T. 2010. *Closing the Gap. The Fourth Industrial revolution in Africa*. Pan Macmillan, 2010.

Mathabang, F.R. 2016. *An Assessment of Municipal sources of revenue: A case study City of Johannesburg*.

Available at: <http://wiredspace.wits.ac.za/handle/10539/22356> (Accessed: 12 June 2020)

Matlala, R. L. G., & Motsepe, D. 2015. Institutional Arrangements to Support the Implementation of Local Economic Development in the City of Tshwane Metropolitan Municipality. *Academic Journal of Interdisciplinary Studies*, 4(2), 325.

Mbecke, P. 2014. Corporate municipal governance for effective and efficient public service delivery in South Africa. *Journal of Governance and Regulation*. 3(4):98-106.

Mbecke, P. & Mokoena, S.K. 2016. *Fixing the Nexus between Intergovernmental Relations and Integrated Development Plans for Socio-Economic Development Case of South Africa*. Available at: <https://repository.up.ac.za/handle/2263/58219> (Accessed: 11 April 2020).

McCombes, S. 2019. *Research Design, Scribbr*. Available at:

<https://www.scribbr.com/methodology/descriptive-research/> (Accessed: 17 June 2020).

McManus, P. Mulhall, S. Ragab, M. & Arisha, A. 2017. An Investigation in the Methodological Approaches used in Doctoral Business Research in Ireland, *ECRM 2017: 16th European Conference on Research Methodology for Business and Management Studies*, Dublin, 22-23 June 2017.

Mngoma, S. 2010. *Public Participation in the Informal Trading By-Laws Amendment: The Case of Johannesburg Inner City*. Thesis. University of Johannesburg. Available at: <https://core.ac.uk/download/pdf/39667417.pdf> (Accessed: 17 February 2021)

Moffat, F., Bikam, P. & Anyumba, G. 2017. Exploring revenue enhancement strategies in rural municipalities: a case of Mutale Municipality, *CIGFARO Journal (Chartered Institute of Government Finance Audit and Risk Officers)*, 17(1):20 – 25.

Mokoena, K.S & Moeti, K.B. 2017. *Community development workers as agents of change and conduit of authentic public participation: The case of Mpumalanga Province in South Africa*. Available at: https://www.researchgate.net/publication/319055275_Community_development_workers_as_agents_of_change_and_conduit_of_authentic_public_participation_The_case_of_Mpumalanga_Province_in_South_Africa (Accessed 20 April 2020).

Mukherjee, M. 2017. A Review of Research Design. *International Journal of Advanced Engineering and Management*, 2(3): 56–59.

Municipal Finance Management Act no 56 of 2003. Available at: <https://www.gov.za/documents/local-government-municipal-finance-management-act-0> (Accessed: 25 March 2020)

Naidoo, C., & Ramphal, R. R. 2018. The Factors that affect public participation for effective municipal service delivery: A case of ward committees. *South African Journal of Industrial Engineering*, 29(4): 82–93.

Nassaji, H. 2015. Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research*, 19(2): 129–132.

National Planning Commission. 2011. *National Development Plan-2030*.2010. Available at: http://www.dac.gov.za/sites/default/files/NDP%202030%20-%20Our%20future%20-%20make%20it%20work_0.pdf (Accessed: 05 May 2020)

National Treasury. 2011. *Delivering Municipal Services in Rural Areas*. Available at: <http://www.treasury.gov.za/publications/igfr/2011/Ig/15.%20Rural%20services%202011%20LGBER%20-%20Final%20-%2009%20Sept%202011.pdf> (Accessed: 13 March 2019).

National Treasury. 2011. *MFMA Circular No. 55, Municipal Budget Circular for the 2011/12 MTREF*. Republic of South Africa. Available at: <http://mfma.treasury.gov.za/Circulars/Pages/default.aspx> (Accessed: 23 June 2020)

National Treasury. 2017. *The state of local government finances and financial management as at 20 June 2017*. Republic of South Africa. Available at: https://www.gov.za/sites/default/files/gcis_document/201805/state-lg-finances-report-2016-17.pdf (Accessed: 23 June 2020).

National Treasury. 2018. *The state of local government finances and financial management as at 20 June 2018*. Republic of South Africa. Available at: http://mfma.treasury.gov.za/Media_Releases/The%20state%20of%20local%20government%20finances/Pages/default.aspx (Accessed: 23 June 2020)

National Treasury. 2020. *The state of local government finances and financial management as at 20 June 2019*. Republic of South Africa. Available at: [http://mfma.treasury.gov.za/Media_Releases/The state of local government finances/Pages/default.aspx](http://mfma.treasury.gov.za/Media_Releases/The%20state%20of%20local%20government%20finances/Pages/default.aspx) (Accessed: 23 February 2021).

National Treasury. 2019. Budget Review. Republic of South Africa. Available at: <http://www.treasury.gov.za/documents/national%20budget/2019/review/FullBR.pdf> (Accessed: 30 October 2020).

Nene, N 2018. *112/257 municipalities have unfunded budgets*. Available at: <http://www.politicsweb.co.za/documents/112257-municipalities-have-unfunded-budgets--nhlan> (Accessed: 30 March 2019).

Ng, T. S. T., Li, T. H. Y., & Wong, J. M. W. 2012. Rethinking public participation in infrastructure projects. *Proceedings of the Institution of Civil Engineers: Municipal Engineer*, 165(2): 101–113.

Ngamlana, N. 2019. *Examining the existing infrastructure for public participation in local government*. Available at: http://afesis.org.za/wp-content/uploads/2019/07/Examining-the-existing-infrastructure-for-public-participation-in-local-government_Nontando-Ngamlana.pdf (Accessed: 26 April 2020).

Ngobese, X. 2018. *Infrastructure challenges in rural municipalities, opportunities and solutions*. Available at: <https://www.salga.org.za/dev/miif/.../1%20MISA%20infrastructure%20Financing.pdf> (Accessed: 17 April 2020).

Ngwane, N. P. 2017. *Implementation of the National Policy Framework on Public Participation in the Ugu District Municipality*. Thesis. University of Witwatersrand. Available at: <http://hdl.handle.net/10539/23446> (Accessed: 15 October 2020)

OECD. 2019. Enhancing Innovation Capacity in City Government. Available at: <https://www.oecd-ilibrary.org/sites/6593ec90-en/index.html?itemId=/content/component/6593ec90-en> (Accessed: 25 April 2021)

Pagatpatan, C. P., & Ward, P. R. 2017. Understanding the factors that make public participation effective in health policy and planning: a realist synthesis. *Australian Journal of Primary Health*, 23(6): 516–530.

Patel, S. (2015). The research paradigm – methodology, epistemology and ontology – explained in simple language. Available at: <http://salmapatel.co.uk/academia/the-research-paradigm-methodology-epistemology-and-ontology-explained-in-simple-language/> (Accessed: 16 June 2020).

Peters, S (n.d). Municipal Consumer Debt in South Africa, Chapter 9. Financial and Fiscal Commission. Available at: <file:///C:/Users/82504393/AppData/Local/Temp/Chapter%209%20-%20Municipal%20Consumer%20Debt%20in%20South%20Africa-1.pdf> (Accessed 29 October 2020)

Pieterse, M. 2018. *How structural flaws contribute to the crisis in South Africa's municipalities*. Available at <https://theconversation.com/how-structural-flaws-contribute-to-the-crisis-in-south-africas-municipalities-102136> (Accessed 20 April 2020).

Pourdehnad, J., Wexler, E.R., Wilson, D.V. (n.n). Integrating Systems Thinking and Design Thinking. Available at: <https://thesystemsthinker.com/integrating-systems-thinking-and-design-thinking/> (Accessed: 28 February 2021)

Rahi, S. 2017. Research Design and Methods: A Systematic Review of Research Paradigms, Sampling Issues and Instruments Development. *International Journal of Economic Management Science*, 6(2): 1–5.

Rahman, M. S. 2016. Quantitative Approaches and Methods in Language -Testing and Assessment- Research: A Literature Review. *Journal of Education and Learning*, 6(1): 101–112.

Rama, D., & Andrews, J. D. 2015. A holistic approach to railway infrastructure asset management. *International Journal of Performability Engineering*, 11(2): 107–120.

Ramaphosa, C. 2019. *Address by President Cyril Ramaphosa on the Presidency Budget Vote 2019/2010*, National Assembly. Available at: <http://www.thepresidency.gov.za/speeches/address-president-cyril-ramaphosa-presidency-budget-vote-2019-2010%C2%AC-national-assembly%C2%A0> (Accessed: 17 June 2020)

Regoniel, P.A. 2015. *Conceptual Framework: A Step by Step on How to Make One, Empirical Research, Quantitative Research* Available at <https://simplyeducate.me/2015/01/05/conceptual-framework-guide/> (Accessed: 29 March 2019).

Rehman, A., & Alharthi, A. 2016. An introduction to research paradigms. *International Journal of Educational Investigations*, 3(8), 51–59.

Resnik, D.B. 2015. What is Ethics in Research & Why is it important. Health. *National Institute of Environmental Health Sciences*. Available at: <https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm> (Accessed: 18 May 2020).

Ross, P. T. & Bibler Zaidi, N. L. 2019. Limited by our limitations. *Perspect Medical Education*, 8: 261–264.

Saldivar, M.G. (2012). A Primer on Survey Response Rate. *Learning Systems Institute*. Available at: https://mgsaldivar.weebly.com/uploads/8/5/1/8/8518205/saldivar_primer_on_survey_response.pdf (Accessed: 16 June 2020).

Saunders, M. L. P., & Thornhill, A. 2009. Understanding the research philosophies and approaches. *Research Methods for Business Students*, 4: 106–135.

Sayeed, C.N. 2016. Beyond codes of conduct towards a public service ethos in South Africa. Lessons to be learned from Finland and Denmark. *African Journal of Public Affairs*. 9(3), September 2016.

Sebola, M.P. (2017). Communication in the South African Public Participation Process. The Effectiveness of Communication Tools. *School of Public Administration, University of Limpopo*, 9(6) 25 – 35.

Slack, E. (2015) *Innovative Governance Approaches in Metropolitan Areas of Developing Countries. The challenge of Local Government Financing in Developing Countries*. Available at:

https://munkschool.utoronto.ca/imfg/uploads/285/slack_presentation_on_innovative_governance_approaches_june_2014.pdf (Accessed: 16 April 2020).

Siddle, A. & Koelble, T.A 2016. *Local government in South Africa: Can the objectives of the developmental state be achieved through the current model of decentralised governance?* Available at:

<https://icld.se/app/uploads/files/forskningspublikationer/siddle-koelble-icld-report-7.pdf> (Accessed: 11 April 2020).

Sreejesh, S., Mohapara, S., & Anusree, M.R. 2014. *Questionnaire Design, Business Research Methods*. Switzerland: Springer International Publishing.

Srinivasan, R. & Parlikad, A.K. 2017. An approach to value-based infrastructure asset management, *Infrastructure Asset Management. ICE publishing*. Available at:

<http://dx.doi.org/10.1680/jinam.17.00003> (Accessed: 04 May 2020).

Statistics South Africa. 2016. *Community Survey 2016*. Available at <http://cs2016.statssa.gov.za/> (Accessed: 07 June 2020).

Statistics South Africa, (2018). Four Facts about Indigents Households. Available at: <http://www.statssa.gov.za/?p=11722> (Accessed: 20 May 2020).

Statistics South Africa. 2018. *Financial Census of Municipalities*. Available at: <http://www.statssa.gov.za/publications/P9114/P91142017.pdf> (Accessed: 14 April 2020).

Steyn, J. 2016. Community Protest: Local Government Perceptions. SALGA, Available at: <https://www.salga.org.za/Documents/Documents%20and%20Publications/Publications/Community%20Protest%202016%20WITHOUT%20BLEED.pdf> (Accessed: 30 March 2019).

Streefkerk, R. 2019. Qualitative vs. quantitative research. Available at: <https://www.scribbr.com/methodology/qualitative-quantitative-research/> (Accessed: 20 May 2020).

Taherdoost, H. 2016. Sampling Methods in Research Methodology: How to Choose a Sampling Technique for Research. *International Journal of Academic Research in Management*. 5 (2):18-27. Available at:

https://www.researchgate.net/publication/319998246_Sampling_Methods_in_Research_Methodology_How_to_Choose_a_Sampling_Technique_for_Research/citation/download (Accessed: 23 June 2020)

Taherdoost, H. 2016. Validity and of the Research Instrument; How to Test the Validation of Questionnaire/Survey in a Research. *SSRN Electronic Journal*. 5(3):28-36.

Theintactone. 2019. *Sample, Characteristics of a Good Sample*. Available at: <https://theintactone.com/2019/03/04/brm-u4-topic-3-sample-characteristics-of-a-good-sample/> (Accessed: 12 June 2020).

The Da Vinci Institute of Technology Management. 2013. Design Thinking Workbook. Unpublished

The Presidency. 2019. President to launch Presidential District Coordination Service Delivery Model. *Media Briefing*. Available at: <http://www.thepresidency.gov.za/press-statements/president-launch-presidential-district%20coordination-service-delivery-model> (Accessed: 29 May 2020).

UK Dissertation writers. 2019. *Saunders' Research Onion – A Step-By-Step Guide to Structuring Research Methodology Chapter For PhD and Master-Level Researchers*. Available at: <https://www.ukdissertationwriters.com/saunders-research-onion-a-step-by-step-guide-to-structuring-research-methodology-chapter-for-phd-and-master-level-researchers/> (Accessed: 15 May 2020).

United Nations, 2015. Transforming our world: The 2030 Agenda for sustainable development. Available at: <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed: 30 October 2020)

Van Belle, J.P., & Cupido, K. 2013. Increasing Public Participation in Local Government by Means of Mobile Phones: What do South African Youth Think? *The Journal of Community Informatics*, 9(4), 16 December 2013.

Vanclay, F., Baines, J.T. & Taylor, C.N. 2013. Principles for ethical research involving humans: ethical professional practice in impact assessment Part 1. *Taylor & Francis Online*, 8 November 2013: 243 – 253.

Van Donk, M & Williams, A 2015. In search of responsible and responsive local governance. *Good Governance Learning Network*. Available at: https://www.ggln.org.za/images/solg_reports/SoLG_2015.pdf (Accessed: 30 March 2019).

Vanso, S. 2014. *What on earth are Ontology and Epistemology? Coach Training*. Available at: <https://theperformancesolution.com/earth-ontology-epistemology/> (Accessed on: 20 May 2020)

Vásquez, W. F. 2015. Nonpayment of water bills in Guatemala: Dissatisfaction or inability to pay?, *Water Resource Research*, 51: 8806–8816

Vyas-Doorgapersad, S., & Ababio, E.P. (2010). The illusion of ethics for good local governance in South Africa, *The Journal for Transdisciplinary Research in Southern Africa*, 6(2): 411 – 427.

Wällstedt, N., Grossi, G., & Almqvist, R. (2014). Organizational solutions for financial sustainability: A comparative case study from the Swedish municipalities. *Journal of Public Budgeting, Accounting & Financial Management*. 26(1): 181-218.

Wells, C. S. & Wollack, J. A., 2003. *An instructor's guide to understanding test reliability*. Available at: <https://testing.wisc.edu/Reliability.pdf> (Accessed on: 24 October 2020)

Wilson, A. Mark Tewdwr-Jones, M. & Comber, R. (2017). Urban planning, public participation and digital technology: App development as a method of generating citizen involvement in local planning processes. *Environment and Planning B: Urban Analytics and City Science*. 0(0) 1–17.

- Wilson, J. 2014. *Essentials of Business Research: A Guide to Doing Your Research Project*, Second Edition. *SAGE Publications*. Available at:
https://www.academia.edu/39919079/Essentials_of_Business_Research_A_Guide_to_Doing_Your_Research_Project_-_Jonathan_Wilson (Accessed: 20 June 2020).
- Wiseman, J. 2015. *Customer-Driven-Government: How to listen, learn, and leverage data for service delivery improvement*. Available at:
<https://datasmart.ash.harvard.edu/news/article/customer-driven-government-721> (Accessed: 26 May 2020).
- World Bank.2017. *Role of law. World Development Report 2017*. Available at
https://openknowledge.worldbank.org/bitstream/handle/10986/25880/9781464809507_Ch03.pdf?sequence=35&isAllowed=y (Accessed: 26 April 2020).
- Yilmaz, K. 2013. Comparison of Quantitative and Qualitative Research Traditions: epistemological, theoretical, and methodological differences. *European Journal of Education*, 48(2): 311-321.
- Zakaria, Z., Ngah, K., Noordin, N., Sawal, M.Z.H.M., & Hussin, Z.H. 2012. Historical of Customer Satisfaction in Municipal Services. *2012 International Conference on Economics Marketing and Management*, 28 (2012):142 – 146.
- Zabolotnyy, S. & Wasilewski, M., (2019). The Concept of Financial Sustainability Measurement: A Case of Food Companies from Northern Europe. *Sustainability 2019. MDPI, Basel, Switzerland*, 11 (5139): 1 – 16.
- Zikmund, M., Babin, B. J., Carr, J. C. & Griffin, M., 2013. *Business research methods*. 8 ed. South Western: Mason.
- Ziolo, M. 2015. Diagnosing fiscal distress: Regional evidence from Polish municipalities, *Romanian Journal of Fiscal Policy (RJFP), Editura ASE, Bucharest*, 6(2): 14-33

Appendix A: Letter for permission to conduct the study



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

PROVINCIAL TREASURY

MEMORANDUM

TO : HEAD OF DEPARTMENT – GC PRATT CA (SA)
FROM : CHIEF DIRECTOR: MUNICIPAL FINANCE – SE TEMA
ENQ : TEMA SE
DATE : 06 AUGUST 2020

SUBJECT : REQUEST FOR PERMISSION TO UTILISE LIMPOPO MUNICIPALITIES IN A RESEARCH DISSERTATION

The purpose of this memorandum is to request permission to utilise the senior and middle management of Limpopo municipalities to send out a questionnaire as part of fulfilment of the requirement of Masters of Technology and Innovation.

I am registered with Da Vinci Institute for a Masters degree in Technology and Innovation. The title of the dissertation is "Constructs that influence Local Government Financial Sustainability. I intend to send the questionnaire and obtain feedback to the municipality between during the period of August 2020 and/or as extended by the university.

It is for this reason that I request your permission for perform the following:

- Utilise information available within the department for the municipality;
- Contact the municipalities' officials for this purpose; and
- Use the department's email address for correspondence.

Ismihl Towers, 46 Hans Van Rensburg Street, POLOKWANE, 0700, Private Bag X0416, POLOKWANE, 0700
Tel: (015) 298 7000, Fax: (015) 295 7010 Website: <http://www.limpopo.gov.za>

The heartland of southern Africa - development is about people!

The department is also welcome to contact my supervisor as detailed below, should any other information be required:

Robin Stoutjesdyk

PO Box 12154

CLUBVIEW

0014

Phone: +27 (0)87 943 3800

Fax: +27 (0)86 500 7584

Mobile: [REDACTED]

Skype: [REDACTED]

E-Mail: [REDACTED]

Yours faithfully

[REDACTED]
SE Tema

Chief Director: Municipal Finance

PERMISSION GRANTED/~~PERMISSION DENIED~~

Comments: _____

[REDACTED]

GC PRATT CA (SA)
HEAD OF DEPARTMENT
DATE: 6/8/2020

Request for permission to utilise Limpopo municipalities in a research dissertation



Constructs that influence local government financial sustainability:

My name is Sibongile Ennie Tema and I am doing research under the supervision of Robin Stoutjesdyk, a consultant and former lecturer, towards a Master of Management in Technology and Innovation (MOTI) at the Da Vinci Institute. We are inviting you to participate in a study entitled: Constructs that influence local government financial sustainability.

Constructs that influence local government financial sustainability.

Dear participant

You are invited to participate in a questionnaire conducted by Sibongile Ennie Tema under the supervision of Robin Stoutjesdyk, a consultant and former lecturer, towards the degree of Master of Management in Technology and Innovation (MOTI) at the Da Vinci Institute.

The questionnaire you have received has been designed to study the concepts that influence local government financial sustainability. You were selected to participate in this questionnaire because you are part of executive/middle management team or head of unit within the municipality. By completing this questionnaire, you agree that the information you provide may be used for research purposes, including dissemination through peer-reviewed publications and conference proceedings.

It is anticipated that the information we gain from this questionnaire will help us to understand how different concepts integrate into planning and execution of duties that can influence financial sustainability. You are, however, under no obligation to complete the questionnaire and you can withdraw from the study prior to submitting the questionnaire.

The questionnaire is developed to be anonymous, meaning that we will have no way of connecting the information that you provide to you personally. Consequently, you will not be able to withdraw from the study once you have clicked the send button based on the anonymous nature of the questionnaire. (Note: Any identifying information that is obtained in connection with this questionnaire will remain confidential and will be disclosed only with your permission or as required by law).

If you choose to participate in this questionnaire it will take up no more than fifteen of your time. You will not benefit from your participation as an individual, however, it is envisioned that the findings of this study may provide more awareness to various constructs applicable and that need to be considered in running the municipality with the aim of improving financial sustainability.

We do not foresee that you will experience any negative consequences by completing the questionnaire. We however foresee the inconvenience of time which may be brought by the availability of network connectivity.

The researcher undertakes to keep any information provided herein confidential, not to let it out of our possession and to report on the findings from the perspective of the participating group and not from the perspective of an individual.

The records will be kept for five years for audit purposes where after it will be permanently destroyed. Hard copies will be shredded and electronic versions will be permanently deleted from the hard drive of the computer.

You will not be reimbursed or receive any incentives for your participation in the questionnaire.

The research was reviewed and approved by the Research Ethics Committee of the Da Vinci Institute. The researcher, Sibongile Ennie Tema, can be contacted during office hours at 015 291 8563/078 456 4053 e-mail: temase@treasury.limpopo.gov.za. The supervisor, Robin Stoutjesdyk, can be contacted during office hours at 087 943 3800/ 082 782 1899 email: robin@corpconfig.co.za.

You are making a decision whether or not to participate by continuing to the next page. You are free to withdraw from the study at any time prior to clicking the Submit button.

Start

Appendix B: Data Collection Instruments

These questions were aimed at collecting data about the respondents' exposure to local government.

Position	
1	Manager/Head of Unit/Section – Appointed/Acting
2	Section 56 manager – Appointed/Acting

General Questions		0 - 3 years	3 - 5 years	5- 10 years	+10 years
1	number of years in local government environment				
2	Number of years in your* municipality				

Section B: Public participation

The objective of public participation was to understand the influence of public participation in the development of municipal infrastructure

No	Question	Not applicable	Below average	Average	Above average
1	The municipality has a clear policy for community participation				
2	The municipality has a formal process of how public comments are received, processed and considered to inform infrastructure development				
3	Community participation process takes into account the special needs of people who cannot read or write and disabilities (blind, wheelchair bound etc.)				
4	The method of sourcing public comments include use of technology (i.e. sms, emails, WhatsApp and other social media)				
5	The business community actively participate in planning for infrastructure development process				
6	Traditional authorities provide inputs on the infrastructure development process				
7	Detailed infrastructure development per ward is outlined during the participation process for inputs				

Section C: Governance Structures

Objective: To determine the relationship between effective institutional governance structures and financial sustainability

No	Question	Not applicable	Below average	Average	Above average
1	The municipality has council approved related by-laws				
2	There is a clear separation of roles between Community Development Workers and Ward Committees				
3	There is a formal system for Community Development Workers to report community matters to the municipality				
4	The Ward Committees proactively inform their relevant communities on service delivery issues				
5	Ward Committees inform the community on financial management matters (payment of services)				
6	Councillors actively encourages communities to pay for services				
7	Councillors provide feedback to communities on a quarterly basis on service delivery and financial state of affairs				

Section D: Intergovernmental Relations

Objective: To determine correlation between intergovernmental relations and financial sustainability.

No	Question	Not applicable	Below average	Average	Above average
1	The municipality has a formal process to consult with neighbouring municipalities on infrastructure developmental plans				
2	Infrastructure development of the municipality is integrated with district, provincial and National Departments infrastructure plans				
3	Municipality is always aware of the Eskom plans to be implemented in its jurisdiction				
4	All mandates transferred from provincial or national departments are fully funded by the department				

No	Question	Not applicable	Below average	Average	Above average
	transferring the functions to the municipality				
5	Management is aware of a process to follow when resolving intergovernmental disputes				

Section E: Infrastructure management

Aim: To determine whether maintenance of service delivery infrastructure results in financial sustainability.

No	Question	Not applicable	Below average	Average	Above average
1	The municipality has a maintenance plan for all basic service related infrastructure				
2	The maintenance plan is costed				
3	Funding for maintenance is adequately provided for in the budget				
4	Municipal basic service related infrastructure is maintained in line with maintenance plan				
5	Maintenance plans are updated as and when new acquisition or disposal of infrastructure				

Section F: Customer Care

To determine whether good customer care improves financial sustainability.

No	Question	Not applicable	Below average	Average	Above average
1	The municipality has documented service delivery standards				
2	The municipality has feedback mechanism on customer service delivery satisfaction				
3	Service interruptions are communicated timely to the communities through usage of technology (e.g. sms, WhatsApp, emails, other social media)				
4	The municipality provides accessible mechanisms to query or verify accounts.				

No	Question	Not applicable	Below average	Average	Above average
5	The municipality has a formal process for dispute resolution				
6	The municipality provides accessible mechanisms to appeal dispute outcomes				
7	The municipality has a system to track complaints response turnaround time and efficiency in resolving complaints.				

Appendix C: List of Limpopo municipalities in financial distress

Municipalities	Financial distress
CAPRICORN DISTRICT	
Blouberg	Financial Distress
Capricorn	-
Lepelle- Nkumpi	-
Molemole	Financial Distress
Polokwane	Financial Distress
MOPANI DISTRICT	
Ba-phalaborwa	Financial Distress
Greater Giyani	-
Greater Letaba	-
Greater Tzaneen	Financial Distress
Maruleng	-
Mopani	Financial Distress
SEKHUKHUNE DISTRICT	
Ellias Motswaledi	Financial Distress
Ephraim Mogale	-
Feta-Kgomo Tubatse	Financial Distress
Makhuduthamaga	Financial Distress
Sekhukhune	Financial Distress
VHEMBE DISTRICT	
Collins Chabane	-
Makhado	-
Musina	Financial Distress
Thulamela	-
Vhembe	Financial Distress
WATERBERG DISTRICT	
Bela- Bela	Financial Distress
Lephalale	Financial Distress
Modimolle- Mookgopong	Financial Distress
Mogalakwena	Financial Distress
Waterberg District	-
Thabazimbi	Financial Distress









Source: National Treasury (2020)

Appendix D: Limpopo Municipalities audit outcomes

Audit Outcome Trend	Audit Opinion				STATUS
	2015/16	2016/17	2017/18	2018/19	
CAPRICORN DISTRICT					
Blouberg	Qualified	Qualified	Qualified	Qualified	↔
Capricorn	Unqualified	Unqualified	Unqualified	Unqualified-no matter of emphasis	↑
Lepelle- Nkumpi	Qualified	Qualified	Qualified	Qualified	↔
Molemole	Unqualified	Unqualified	Unqualified	Unqualified	↔
Polokwane	Qualified	Qualified	Qualified	Qualified	↔
MOPANI DISTRICT					
Ba-phalaborwa	Disclaimer	Disclaimer	Qualified	Qualified	↔
Greater Giyani	Qualified	Adverse	Qualified	Qualified	↔
Greater Letaba	Qualified	Qualified	Unqualified	Unqualified	↔
Greater Tzaneen	Unqualified	Unqualified	Qualified	Qualified	↔
Maruleng	Unqualified	Unqualified	Unqualified	Unqualified	↔
Mopani	Adverse	Disclaimer	Adverse	Qualified	↑
SEKHUKHUNE DISTRICT					
Ellias Motswaledi	Qualified	Qualified	Unqualified	Qualified	↓
Ephraim Mogale	Qualified	Qualified	Unqualified	Qualified	↓
Feta-Kgomo Tubatse		Qualified	Qualified	Qualified	↔
Makhuduthamaga	Unqualified	Unqualified	Qualified	Unqualified	↑
Sekhukhune	Unqualified	Unqualified	Unqualified	Qualified	↓
VHEMBE DISTRICT					
Collins Chabane		Qualified	Disclaimer	Qualified	↑
Makhado	Qualified	Adverse	Qualified	Qualified	↔
Musina	Unqualified	Unqualified	Qualified	Qualified	↔
Thulamela	Unqualified	Unqualified	Unqualified	Unqualified	↔
Vhembe	Disclaimer	Disclaimer	Disclaimer	Qualified	↑
WATERBERG DISTRICT					
Bela- Bela	Unqualified	Qualified	Qualified	Qualified	↔
Lephalale	Unqualified	Unqualified	Qualified	Qualified	↔
Modimolle- Mookgopong		Disclaimer	Disclaimer	Disclaimer	↔
Mogalakwena	Adverse	Adverse	Adverse	Adverse	
Waterberg District	Unqualified	Qualified	Qualified	Unqualified	↑
Thabazimbi	Disclaimer	Disclaimer	Disclaimer	Qualified	↑

Source: AGSA (2019)

Legends for arrows status:

Municipality did not exist prior 2015 reconfiguration of municipal boundaries	
Unchanged adverse	
Unchanged qualified	
Improved to Unqualified without emphasis of matters	
Unchanged unqualified	
Improved to qualified	
Regressed to qualified	
Unchanged Disclaimer	

Appendix E: Limpopo Municipalities Financial Health

	2016/17		2017/18		2018/19	
	Number	Municipality	Number	Municipality	Number	Municipality
Bankrupt* - Solvency ratio of less than 1:1 (total liabilities exceed total assets)	0	None	0	None	0	
Insolvent - Liquidity ratio of less than 1:1 and unable to pay creditors from available cash and investments	8	Mopani, Elias Motsoaledi, Sekhukhune, Musina Vhembe, Belabela, Modimolle-Mokgophong Thabazimbi	10	Mopani, Elias Motsoaledi, Makhuduthamaga, Fetakgomo-Tubatse, Sekhukhune, Musina, Vhembe, Belabela, Modimolle Mookgophong Thabazimbi	8	Belabela, Elias Motsoaledi Makhuduthamaga, Modimolle-Mookgophong Musina, Sekhukhune, Thabazimbi, and Vhembe
Solvent - Unable to Pay Creditors - Liquidity ratio above 1:1 but unable to pay creditors from available cash and investments	7	Polokwane, Ba-Phalaborwa, Greater Tzaneen, Fetakgomo-Tubatse, Makhado, Lephalele Mogalakwena	10	Blouberg, Polokwane Ba-Phalaborwa, Greater Letaba, Maruleng, Greater Tzaneen, M Greater Giyani, Lephalele, Mogalakwena	8	Blouberg, Ba-Phalaborwa, Molemole Greater Giyani, Greater Letaba, Greater Tzaneen Mopani, Lephalele
Constraint Liquidity Ratio" - Liquidity ratio of less than 1:1 but sufficient cash and investments available to pay creditors		None	1	Lepelle-Nkumpi	1	Fetakgomo-Tubatse
Short to Medium Term Viability - Liquidity ratio above 1:1 and sufficient cash and investments available to pay creditors	12	Blouberg, Lepelle-Nkumpi, Molemole, Capricorn Giyani, greater Letaba, Maruleng, Ephraim Mogale Makhuduthamaga, Collins Chabane Thulamela Waterberg	6	Molemole, Capricorn, Ephraim Mogale Collins Chabane, Thulamela, Waterberg	8	Collins Chabane, Lepelle-Nkumpi, Capricorn Maruleng, Ephraim Mogale, Makhado Thulamela and Waterberg
Outstanding Audit Opinions		None		None	2	Polokwane and Mogalakwena
	27		27		27	

Source: Limpopo Provincial Treasury (2020)