

**THE IMPACT OF THE MUNICIPAL BILLING SYSTEM ON REVENUE
COLLECTION IN SELECTED SOUTH AFRICAN CITIES**

by

Gezani Phineas Mazibuko

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Study Leader: Prof Dr D.J Fourie

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DEDICATION

I dedicate this piece of work to my late parents, Languta Tsatsawani Mathevula and Khambayi Bullish Ntshani.

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Firstly, I would like to thank Prof. G. van Dijk, who initiated me into the UP academic environment. I wish to express my sincere gratitude to my supervisor Prof Dr D.J. Fourie for the excellent guidance he provided. Without such guidance I do not think I would have completed this document successfully.

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My special thanks goes to my wife, Tintswalo, my sons, Sibusiso, Matimba, Thembani, and my daughters, Basambilu and Mpfuno, for their support and prayers during the study.

May God bless this work and future projects!

DECLARATION

I declare that the dissertation, which I hereby submit for the degree MAdmin in Public Administration at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

.....
Gezani Phineas Mazibuko **10 OCTOBER 2013**

ABSTRACT

Incorrect and inaccurate municipal billing system poses a challenge in the local government system in South Africa. The communities in the various municipalities were dissatisfied with the incorrect and inaccurate municipal bills that were being issued. Consequently public confidence in terms of the billing system dwindled, communities were unwilling to pay for the bills issued and as such debt accumulated and the municipalities could not recover the debt.

The research question, therefore, is that the municipal bills sent to customers were incorrect or inaccurate and revenue was lost. Public confidence with regard to municipal billings system declined and communities were unwilling to pay for the incorrect or inaccurate bills issued. Debts accumulated and seemingly the municipal billing system had an impact on revenue collection in selected South African cities.

There is currently no scientific research which has been conducted at academic level to determine the core problem as reported in newspapers, public domain and municipal areas to share the information nationally and internationally regarding the state of municipal billing system, debt and revenue management challenges. The research suggests that in order to improve the efficiency of the collection of service charges, the billing and collection systems must be decentralised, accessible to the consumer, matched with the income cycle and paying capacity of the consumer.

The study covers an analysis of the municipal billing system and revenue collection in the City of Johannesburg Metropolitan Municipality, Nelson Mandela Bay Metropolitan Municipality and Ekurhuleni Metropolitan Municipality and suggests measures for financial sustainability in the three cities. The study used both the qualitative case study and the quantitative approach to effectively collect and analyse the data needed. The research problem which informs this study is incorrect, inaccurate municipal bills sent to customers and lost revenue. The result of incorrect and inaccurate bills was that public confidence declined and communities protested to pay for the incorrect, inaccurate bills issued and thus debt accumulated. In examining this problem, the research begins with a description of the context of empirical analysis, of the local government system, municipal billing system and revenue collection in South Africa.

The study analysed profound issues regarding local governance systems namely: legislation, policies, procedures, public administration and its environmental factors, spheres of government, financial administration and standards, intergovernmental relations functions, municipal structure and functions, elements of municipal billing systems, sources of revenue, municipal billing systems challenges in the three metropolitan municipalities, debts accumulation and deficiency in municipal billing systems and information technology.

The study recommends the need for a sound municipal billing and collection system essentially regarding the taxes levied and collected by these metropolitan municipalities. A sound municipal billing system should be configured with a short turnaround strategy to serve demand notices and the collection of dues from individual customers, thereby enabling efficient cash recycling. An efficient billing system is essential for taxes levied by municipalities and their collection from consumers. The study also provides an opportunity for further academic research in the field of municipal billing systems and revenue collection. Hopefully, this study will become a catalyst for future research, policy alternatives and planning for local government and academic institutions nationally and internationally regarding the municipal billing system and revenue collection fields.

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ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
AIS	Accounting information system
ASPA	American Society for Public Administration
BRT	Bus rapid transport
CAMA	Computer assisted mass appraisal
CC	Close corporation
COJ	City of Johannesburg
CSI	Customer service information
CSO	Civil society organization
DBSA	Development Bank of Southern Africa
DED	Department of economic development
DM	Deutsche mark
DORA	<i>Division of Revenue Act</i>
DWAF	Department of Water Affairs
EFT	Electronic funds transfer
ELRA	<i>Electricity Regulation Act</i>
EMM	Ekurhuleni metropolitan municipality
ESKOM	Electricity Supply Commission
FSA	Financial Services Authority (united kingdom)
GAAP	General accepted accounting standards
GBA	Global billing association
GAMAP	General accepted municipal accounting practice
GDS	Growth and development strategy
GGLN	Good governance learning networks
GIS	Geographical information system
GRAP	Generally recognised accounting practice
HIV	Human immunodeficiency virus
HR	Human resources
ICT	Information communication technology
IDP	Integrated development programme
IMFO	Institute of Municipal officers
INCA	Infrastructure Finance Corporation Limited
JAG	Johannesburg Advocacy Group
JGDS	Johannesburg growth and development strategy
LED	Local economic development plan
LGTA	Local government transition act
MEC	Member of executive council
MFMA	<i>Municipal Finance Management Act</i>
MIS	Management information system
MMCS	Members of municipal councils
MPRA	<i>Municipal Property Rates Act</i>

MSA	<i>Municipal Systems Act</i>
MSA	<i>Municipal Structure Act</i>
MTB	Medium-term budget
NAICS	North American industry classification system
NCES	National Center for Education statistics (USA)
NERSA	National Energy Regulator of South Africa
NGOS	Non-governmental organisation
NMBMM	Nelson Mandela Bay Metropolitan Municipality
NPM	New public management
PAR	Public administration review
PAT-NET	Public administration theory network
PPPS	Private public partnerships
PTP	Promise to pay
R&CRM	Revenue and customer relations management
RSC	Regional services councils
RSA	Republic of South Africa
SAICA	South African Institute of Certified Accountants
SALGA	South African Local Government Association
SDBIP	Service delivery and budget implementation plan
SCOA	Standard chart of accounts
SEC	Securities and Exchange Commission
Stats SA	Statistics South Africa
USA	United States of America
VAT	Value added tax
WSA	<i>Water Services Act</i>

CHAPTER 1 : INTRODUCTION TO THE STUDY

1.1 INTRODUCTION

The purpose of this research is to analyse the impact of the municipal billing system on revenue collection in selected South African cities. The rationale is that the municipal billing system has created serious challenges and has been in the public domain in various South Africa municipalities in the local governance system for a number of years. Communities in various municipalities were not satisfied with the incorrect municipal bills that were issued. It was clear that public confidence in terms of the billing system deteriorated and communities were not willing to pay for the bills issued. The result was that debt accumulated and municipalities were unable to recover those debts.

Municipal billing, revenue collection, and the administration thereof could be seen as some of the most important functions of municipal government and administration; however, this is the least written subject in the field of municipal financial management. This study is an attempt to fill the gap by outlining the major activities of the municipal billing system as a technological application and its impact on revenue collection in selected cities in the Republic of South Africa. The research concentrates on selected South African cities and is based on a case study of the impact of the municipal billing system on revenue collection in the City of Johannesburg Metropolitan Municipality, Ekurhuleni Metropolitan Municipality and the Nelson Mandela Bay Metropolitan Municipality. For the purpose of this research, the distinction is made between the municipal billing system and its impact on revenue collection in selected South African cities.

In this chapter, the study will be outlined by introducing the historical background of local government in South Africa, as it relates to the interim and transitional phase, establishment phase, consolidation phase, local government finances, legislative mandates, municipal billing system, revenue collections, the problem statement, objectives of the study, research methodology, study area or sample population, relevance of the study, limitation of the study, study organisation and conclusion.

1.1.1 Background of local government in South Africa

The *Green Paper on Local Government* (1997) as the first local government policy document during the transitional era describes the history of local government in South Africa. The major influences on local government in South Africa were apartheid, local struggles against apartheid, built-in financial strengths and weaknesses and the negotiation process in the early 1990s. In particular, apartheid has left its imprint on human settlements and municipal institutions in South Africa. Transformation requires an understanding of the role local government plays in separating people and in perpetuating inequity. Local government processes are essentially legal processes, and the mandate of local government as well as the way in which it carries out that mandate is prescribed by legislation-particularly, Acts of Parliament. As a point of departure, the three phases of local government and the legislative foundation will be provided.

1.1.1.1 Interim phase

The *Local Government Transition Act* (209/1993), maps out three phases of local government as follows:

- (i) the pre-interim phase, prescribing the establishment of local forums to negotiate the appointment of temporary councils, which would govern until municipal elections;
- (ii) the interim phase, beginning with municipal elections in 1995/96 and lasting until the next elections in 1999, and
- (iii) the final stage, when a new local government system was to be established.

During the interim phase, the local government transition effectively deracialised the system of local government through the amalgamation of former racially based structures, real transformation was anticipated. The weaknesses of the Local Government Transition, such as its bias towards urban areas and the lack of structured support processes to enable municipalities to manage the change process, were reflected in the municipal system.

The infrastructural disparities and inequalities resulting from apartheid local government remain. The transition process had clearly shown that the old institutional framework did not permit local government to deliver on its new democratic municipal mandates, namely; to overcome the injustices and imbalances of apartheid and promote development and prosperity for all. The local government system as it existed was established as a transition measure to

bridge the gap of old apartheid councils. The new local government system consists of all the types of municipalities.

1.1.1.2 Interim phase and transitional councils

In terms of the interim phase and transitional councils, it is imperative to understand the underpinning local government. The first phase of the restructuring of local government in South Africa known as the interim phase was quite a lengthy process, which started with a very important piece of legislation namely; the *Local Government Transition Act* (Act 209/1993) which came into effect on the 2 February 1994. This Act was at the heart of the negotiations which preceded the democratic dispensation ushered in by the General election of 1994 and represented the transition from essentially whites-only municipalities to a system of municipalities for all people. The Act had the objective of providing for revised interim measures with a view to promoting the transitional local government. Consequently, all councils which were brought into being in terms of the Act were viewed as being transitional (Gaffney's, 2001:18).

What this legislation effectively achieved was to bring together diverse forms of municipal government, which co-existed at the time of its promulgation, in a homogeneous political and administrative system. The system was based on three main categories of municipalities, namely metropolitan councils, metropolitan local council and local councils. Local government was also extended further into rural areas through provisions relating to the establishment of district council representative to function in a culture of co-operative government, which extended through the three levels of government, namely; national, provincial and local. It was never intended, however, that this system would be the ultimate scenario for South Africa, and so the transitional phase finally comes to a close with the December 2000 local government elections (*White Paper on Local Government*, 1998:4-6).

1.1.1.3 Establishment Phase

With reference to the *Republic of South Africa Constitution Act* (108/1996) (here after the *Constitution*), the vision of democratic local government providing services for all people in an effective manner required further reorganisations of the administrative and political structures in this sphere. To this end, a new Act of Parliament, the *Municipal Structures Act* (117/1998) was promulgated. The above Act was timed to coincide with the second round of municipal elections, which had to take place between November 2000 and February 2001, as

directed by the *Constitution* of 1996. In legal terminology, the objectives of the *Municipal Structures Act* (117/1998) are to provide for the establishment of municipalities in accordance with the requirement relating to categories and types of municipalities to be established in an area, to determine the category of municipality that may be established in each category, to provide for an appropriate division of functions and powers between categories of municipality, to regulate the internal systems, structures and office-bearers of municipalities and to provide for appropriate electoral systems.

The *Municipal Structures Act* (117/1998) provides for a system of local government which covers the entire country, including the rural areas. It paved the way for three forms of municipalities. The first form, Category A, is a Metropolitan municipality, sometimes known as a unicity and clearly catering for very large urban conglomerations. The second and third forms, namely; Categories B and C are district and local municipalities. Technical differentiations allow for various combinations of medium-sized towns, small towns and villages into conglomerate municipalities (Gaffney's, 2001:19).

1.1.1.4 Consolidation phase

In analysing the phases, it is clear that the amalgamation of previously divided areas, especially with the inclusion of informal settlements and rural areas has markedly increased the population which municipalities must serve; however, there has not been a corresponding increase in the tax base. During the transitional phase, municipalities in South Africa experienced financial stress, and in some instances crisis unfolded whereby the municipal service backlogs collapsed, deteriorating infrastructure and creditworthiness and borrowing capacity, administrative inefficiencies and non-payment for services rendered. However, it should be noted that there are great differences between municipalities with respect to financial position and many municipalities at that stage were financially stable and healthy, despite these difficulties (*White Paper on Local Government*, 1998:8).

1.1.1.5 Local government finances

Historically, most local government revenue in urban South Africa is self-generated and mainly *via* property taxes and the delivery of services to residents and business. This particularly suited white municipalities, serving less population and having big economic resources to tax. As in most aspects of the South African society, municipalities are diverse and operate in unique social, demographic and economic spaces. These characteristics have a

significant impact on municipal performance and subsequent strategies required to ensure a well-functioning local government sphere. To fund constitutionally mandated expenditure responsibilities, municipalities rely on two main sources of revenue, namely own revenue and intergovernmental fiscal transfers. With respect to own revenue sources, municipalities are constitutionally accorded an array of fiscal instruments. These revenue instruments are property rates, user charges for municipal services rendered and other local taxes. Local government in South Africa is generally self-financing, deriving an average of 73.4% of total real operating revenues from own collection. Due to economic inequalities across the country, certain municipalities have less own revenue sources. Therefore, intergovernmental transfers play an important role in bridging these inequalities to ensure that all municipalities are well funded to fulfil their service delivery mandates. Over the period under review, intergovernmental fiscal transfers contributed on average 26.6% to total municipal revenue (FFC, 2011:43).

Billing and collection are critical issues as they are often in the public domain in various municipalities in South Africa. Poor billing and collection are not only specific to smaller, less-resourced municipalities, but also to big municipalities, for example, the City of Johannesburg, has according to recent reports indicating public discontent with the poor billing practices. Improvement in billing and collection can have the potential to bring immediate enhancements to the revenue bases of municipalities. However, it is clear that as households increase, issues around incorrect billing continue to affect the integrity of municipalities negatively. Poor performance can result in paying customers being categorised as defaulters and can in certain instances exacerbate unwillingness to pay. To this end, achieving and maintaining accurate and efficient billing and collection processes are based on a number of factors such as accurate databases, effective and regular metering of service consumption, adequate staff capacity and convenient facilities for customer payments (Agrawal, 2008:10-22).

In concluding this section, it should be mentioned that during the transition, budgeting, accounting, financial reporting and management practices were weak in some municipalities, problems included undercapacitated financial staff, unrealistic budgeting and a lack of meaningful popular participation in the budgeting process. Improved municipal accounting systems and capacitating programmes were, therefore, required.

1.2 LEGISLATIVE MANDATES

For the purpose of this research, legislation applicable to local government will be outlined in this chapter, while Chapter 5 will analyse the impact of this legislation on the municipal billing system and revenue collection. The objective of analysing the legislation is to provide guidance regarding environmental legislation that may be analysed to local government. All these pieces of legislation describe the way in which local government should function and provide guidelines and a framework for effective execution of local government functions.

The *Constitution* 1996 establishes local government as a separate sphere of government responsible for service delivery, and imposes a specific set of responsibilities on national and provincial spheres of government to support and strengthen the capacity of municipalities. Therefore the *Constitution* mandates local government:

- (i) to provide democratic and accountable government for local communities;
- (ii) to ensure the provision of services to communities in a sustainable manner;
- (iii) to promote social and economic development;
- (iv) to promote a safe and healthy environment; and
- (v) to encourage the involvement of communities and community organisations in the matters of local government.

The *Constitution* requires that municipalities raise their own revenue from service fees, property rates, surcharges and other taxes, levies and duties. The *Constitution* distinguishes between actual “revenue raised” and fiscal capacity. Municipal fiscal capacity must be determined independently of municipal fiscal effort, and only fiscal capacity can be considered in the local government equitable share formula. The *Constitution* grants municipalities considerable income-generating powers but subjects these powers to national legislation and regulation. Municipal taxation powers are also limited in that they may not “unreasonably prejudice” national economic policies and activities. In terms of section 229 of the *Constitution*, the following are basic principles when levying taxes in local government (*White Paper on Local Government*, 1998:111-112):

- (i) revenue adequacy and certainty;
- (ii) sustainability;
- (iii) effective and efficient resource use;
- (iv) accountability, transparency and good governance;
- (v) responsibility and accountability to local taxpayers for the use of public funds;

- (vi) equity and redistribution;
- (vii) equitable treatment with regard to the provision of services;
- (viii) development and investment: meeting basic needs in the context of existing service backlogs will require increased investment in municipal service infrastructure; and
- (ix) macroeconomic management: municipalities form an integral part of the public sector in South Africa, and their actions can substantially affect national policy.

The *White Paper on Local Government* (1998) is a founding piece of legislation based on the principles of all the acts which are prevalent in local government. The *White Paper on Local Government* (1998) establishes the basis for a new developmental local government system which is committed to work with citizens, groups and communities to create sustainable human settlements that provide for a decent quality of life and meet the social, economic and material needs of communities. This developmental role for municipalities requires them to structure and manage their administrations, budgeting and planning processes to prioritise the basic needs of the community. Various Acts of Parliament were promulgated to support the principles adopted in the *White Paper on Local Government* (1998).

Municipal Demarcation Act (27/1998) gives expression to the provisions of the *Constitution*, and to the policy developed in the *White Paper on Local Government* (1998). The *Municipal Demarcation Act* (27/1998) empowers the Municipal Demarcation Board to determine the categories of municipalities as well as their outer boundaries and wards. The board has the additional functions of providing advice to the central government and working with government departments in order to align the municipal boundaries with the government's service delivery regions.

Municipal Structures Act (117/1998) clarifies the status of municipalities and provides the framework for the establishment of municipalities in accordance with the requirements and criteria relating to categories and types of municipalities. It further determines the appropriate division of powers and functions between categories of municipalities and regulates governance structures and electoral systems for newly demarcated municipalities. In essence therefore, the Act allows for different models for the executive government of a municipality namely the executive mayor, executive committee and plenary as well as defining the relationship between traditional authorities and local government.

Municipal Systems Act (32/2000) gives expression to the provisions of the *Constitution* and to the policy developed in the *White Paper on Local Government* (1998). The *Municipal*

Systems Act (32/2000) provides for matters flowing from these constitutional imperatives. In the preamble to the *Municipal Systems Act (32/2000)*, the focus is squarely placed on local government to be developmental in orientation and it emphasises the need to set out core principles, mechanisms and processes that give meaning to developmental local government. The billing function is the principal mechanism that drives all cash flow, the main source of customer information, and critically fundamental to the success of any municipality. Sections 62(1), 64(1), and 96(b), regulate the collection and management of municipal revenue. A substantial portion of any local municipality's revenue is derived from the delivery of services. Section 96 of the *Municipal Systems Act (32/2000)* requires that municipalities collect all money that is due and payable and, for this purpose, must adopt and maintain a debt collection policy of which billing is an integral part.

The *Municipal Finance Management Act (56/2003)*: The object of this legislation is to secure a sound and sustainable management of the fiscal and financial affairs of municipalities and municipal entities by establishing treasury norms and standards for the local sphere of government and other requirements by:

- (i) ensuring transparency, accountability and appropriate lines of responsibility in the fiscal and financial affairs of municipalities and municipal entities;
- (ii) managing of revenues, expenditures, assets and liabilities and the handling of their financial dealings;
- (iii) Planning budgetary and financial processes and co-ordinating of these processes of organ of state in other spheres of government;
- (iv) borrowing;
- (v) handling of financial problems;
- (vi) Managing the supply chain; and
- (vii) handling financial matters.

The Municipal Property Rates Act (6/2004) regulates the power of municipalities to impose property rates, excludes certain properties from rating in the national interest, provides fair and equitable valuation methods of properties, and provides for municipalities to implement a transparent and fair system of exemptions, reductions and rebates through their rating policies. In terms of this legislation, municipalities manage their revenue in terms of the policies and by-laws developed specifically to suit local circumstances: Rates by-law and policy; tariff by-law and policy; indigent support by-law and policy; credit control and debt collection; customer care and management by-law and policy.

The *Intergovernmental Fiscal Relations Act (97/1997)* sets out the process for the division of nationally raised revenues between the three spheres of government. The Act establishes the budget forum, in which local government issues are presented as part of the national budget process. The Act also requires that a Division of Revenue Bill is tabled annually, setting out among other things the amounts to be transferred to each municipality.

The *Municipal Fiscal Powers and Function Act (12/2007)* regulates municipal surcharges and municipal taxes, other than property rates. Only the Minister of Finance may authorise a municipal tax by issuing regulations in terms of the Act. The Act requires municipalities to get authorisation for all existing municipal taxes, which process still has to be concluded. The Act also empowers the Minister of Finance to prescribe norms and standards for municipal surcharges. The municipalities should be able to demonstrate that their billing system is complete, accurate and reliable, and that their collections and debt management policies are being effectively implemented.

The *Division of Revenue Act* provides for the equitable division of revenue raised nationally among the national, provincial and local spheres of government and the responsibilities of all three spheres pursuant to such division.

The above outline, regarding the historical background of local government, local government finances and the legislative mandates will provide some understanding of local government legislation, the implications of effective legislation in planning, utilisation and implementation of municipal billing systems and revenue collection in selected South African cities.

1.3 CONCEPTUALISATION OF THE MUNICIPAL BILLING SYSTEM

The legislative framework provides that municipalities must be sustainable. In order to do that municipalities must have municipal billing systems as a financial application that can act as a tool for municipal revenue collection. As part of the background to the formulation of the research problem and objectives, the municipal billing system and revenue collection need to be analysed as they are two critical components which complement each other and have to work in tandem. Without the municipal billing system, it means that manual collection of revenue will be the order of the day and as such bills or invoices have to be processed by hand and will not reach customers in time for them to pay for services rendered. Incorrect bills can

be generated through the use of manual invoicing systems and this can create problems and unending complaints from the members of the public as taxpayers. In light hereof, the billing system is of paramount importance to this research as it can negatively or positively impact on revenue collection depending on whether it is continuously monitored, evaluated and managed. The current municipal billing system does not optimally make provision for dynamic revenue collection in selected South African cities and its diverse public financial management system.

In view of the above, it is clear that there is growing evidence and general viewpoints regarding the problems with municipal billing system and revenue collection that proposes a dire need for an analysis of municipal billing systems and revenue collections to provide a theoretical basis for the research. The general trend which has developed internationally is a focus on municipal billing systems associated with a revenue collection, and the major emphasis is on using of information technology as a tool and the billing systems as a financial application system. This research uses these two focuses that are ex-post and ex-ante as the basis of discussion. Each of these focuses is unique and requires a unique approach in the field of the municipal financial management continuum.

As will be shown, these two domains are inextricably linked. In order to understand the various components of the municipal billing system and revenue collection in the South African context, and subsequently, the impact of the municipal billing systems on revenue collection, it is firstly imperative to discuss the respective components, namely the municipal billing system and revenue collection. The efficiency and the effectiveness of the municipal billing system as a backdrop to the formulation of the problem statement have come to occupy a unique position in the system of developmental local governance in South Africa. Municipal billing systems have been blamed for a range of municipal management challenges and in the process, have in many instances, undermined public confidence in the system of local governance and revenue collection.

Municipal billing system are critical instruments for the success of correct data, clean bills and positive revenue collection input into it and the improvement of public confidence in the system of local government. According to Allan (1993:25), the assessment and the billing of taxes and other revenue are the two most important tasks faced by local governments in their daily operations. The inability of a municipality to successfully accomplish these tasks can reduce the amount of revenue available to finance its activities and provide services to residents in an orderly fashion. According to the Nelson Mandela Bay Metropolitan

Municipality (2006), *billing*, means invoicing on a municipal account to an account holder of an amount or amounts payable for assessment rates, metered services, other municipal charges, levies, fees, fines, taxes, or any other amount or amounts payable arising from any other liability or obligation. The municipality defines the *billing cycle* as the time frame which dictates when a bill is generated for a selected account. The time frame for a billing cycle could conceivably vary from weekly to annually and may apply to all debtor accounts or selected subsets of the accounts.

The role of local government has expanded since 1994, and for example, municipal sustainability, service delivery and local economic development are the key issues to take into consideration. The financial viability of different categories of municipalities and revenue generation is of great concern especially if the billing system is incorrect, debts accumulate, revenue is not generated and increases as it should be in terms of their mandates. Varying factors play a role in the use of information technology to enable and enhance public participation and responsive municipal management.

In spite of the significant impact of the municipal billing system on the public attitude towards municipal governments, they are no more than a software package, an information management system that is as good as the systems and processes through which information is collected and deposited into. Despite the above, no scientific research has been conducted at academic level to determine the core of the problems as discussed in newspapers and municipal domains regarding the kind of information which could be publicly shared with communities. Thus the state of the municipal billing system, debt and revenue management continues to be sporadic in nature, limited in perspective and ineffective to a certain degree.

According to Bell (2005:64, 81,107, 115 and 151), a *billing system* is a combination of software and hardware that receives call detail and service usage information, groups this information for specific accounts or customers, produces invoices, creates reports for management, and records or posts payments made to customer accounts. A *billing system* is an online tool, real-time solution which provides access to transaction processing, data and information at the point of use, ensures that data integrity is essential, all functionality is fully integrated, has an open architecture, which facilitates functionality improvement and replacement or addition, is easy and intuitive to export data in a standard format from all parts of the system to standard office applications. Municipal billing is a system which enforces specified business processes that are determined by management.

The billing system should be able to generate quality information reports, quality assurance functionality, quality assurance reporting, cash management reporting, forecasting, accommodate account payments on line, ensure that the structure of general ledger is flexible, cater for consolidated billing and ensure that one statement for rates and all service charges is produced, have the ability to capture and process invoices, debit notes and credit notes on accounts receivable and accounts payable transactions (Fourie, Opperman and Scott, 2006:210).

According to USAID (2005:14-17), there are various areas which are critical for the municipal billing system such as the rationale for accurate billing, legislative requirements, critical elements of municipal billing systems, billing integrity such as preventive and detective controls, billing processes and cycles, formulas, customer usage, tariff and services. In the event that billing information not properly input into the above areas or that procedures are not followed in terms of the above, the billing system will be in chaos and the confidence of public will deteriorate.

In concluding this section, it is imperative to mention that in the field of the municipal billing continuum, it is critical to understand why all the bills should be accurate in that a substantial portion of any local municipality's revenue is derived from the delivery of services. To facilitate this revenue generation, the municipality needs to bill its customers on a regular basis. It is imperative that the billing is done accurately, as invoices that do not reflect the true nature and quantity of services delivered will probably result in non-payment. The billing function must be considered as the principle mechanism that drives all cash flow, the main source of customer information and critically fundamental to the success of any municipality.

1.4 REVENUE COLLECTION

Revenue performance constitutes the ultimate goal of any tax administration (Von Soest, 2007:356). A sound local government revenue system is even more important to sound local government finance than a robust expenditure system. There are two basic principles for assigning revenue to local government (*White Paper on Local Government*, 1998:113-116) namely:

- (i) own-source revenues: these should be sufficient to enable at least better-off local governments to finance the locally provided services primarily benefiting local residents; and

- (ii) local government revenues should be collected only from local residents, businesses and service users.

Municipalities should not only have access to those revenue sources that they are best equipped to exploit, such as residential property taxes and user charges for local services, but they must, for the purposes of this research, be encouraged to exploit other sources. Local government must have control over the rates of some significant revenue source if it is to be fiscally responsible and able to innovate the way they finance basic services. Every month, municipalities send out accounts to all residents, charging for electricity and water supply, waste collection and property taxes, more commonly known as rates. This revenue is used for a wide range of municipal services, from basic services like the maintenance of roads, refuse collection and water provision, to social upliftment initiatives and education programmes (Ekurhuleni Metropolitan Municipality, 2010).

The revenue office is also the public face of the municipality. Revenue collection involves providing services to the customers as efficiently and effectively as possible. This means that a municipality must collect all money that is due and payable to it and by so doing, the municipality has to adopt, maintain and implement a credit control and debt collection policy which is consistent with the rates and tariff policies of that particular municipality (City of Johannesburg Metropolitan Municipality, 2010). The ability of municipalities to maximise revenue and develop infrastructure is often adversely affected by some of the under-mentioned issues; namely inefficient day-to-day processes, insufficient knowledge of the indigent reality, inadequate technology or systems, a lack of data integrity, unreliable and time-consuming manual processes, inconsistent credit control measures, a culture of non-payment and a lack of capacity and skills. It must be indicated that some urban taxes are politically sensitive, thus affecting the willingness of municipalities to assess and collect such taxes effectively and to enforce sanctions on defaulters (National Treasury, 2011a:71).

For the purposes of this research, it is important to appreciate and highlight the trends regarding revenue collection and debts in various municipalities in order to give a general picture of municipal revenue administration in the country. The trend in the accumulation of debts might be the result of the impact of the municipal billing system on the dwindling public confidence, which mainly emanates from incorrect and inaccurate bills.

According to the National Treasury (2011a:59-61), all municipalities are expected to raise their own revenues in addition to the equitable share transfer they receive from the national government. This principle is an important feature of any democratic local government

system. However, National Treasury (2011b:2), states that an aggregate municipal consumer debt amounted to R75.5 billion as at 31 December 2011, of which national and provincial government's contribution represented 4.7% or R3.5 billion. Households accounted for the largest component of consumer debtors, accounting for 63.9 % or R48.2 billion. As at 31 December 2011, outstanding debt due to metropolitan municipalities was R44.5 billion. This represents an increase of R7.7 billion or 20.9% from the second quarter of the 2010/11 financial year. The City of Johannesburg Metropolitan Municipality's share was R13.9 billion or 31.2% of all metropolitan municipalities. Tables 1-1, 1-2 and 1-3 indicate debt in the metropolitan municipalities in the country:

Table 1-1: Metropolitan municipalities' debt age analysis

Metros debt age analysis as at 2nd quarter ended 31 December 2011						
2nd Quarter Ended 31 December 2011						
R thousands	Amount %		Amount %		Amount %	
	0-30 Days		31-60 Days		61-90 Days	
Nelson Mandela	747 001	37.0%	94 994	4.7%	24 833	1.2%
Buffalo City	155 845	17.8%	59 819	6.8%	38 783	4.5%
Mangaung	104 792	6.6%	166 708	10.5%	154 229	9.7%
Ekurhuleni Metro	1 123 358	11.5%	468 913	4.8%	290 693	3.0%
City of Johannesburg	2 631 168	19.0%	162 655	1.2%	89 878	0.6%
City of Tshwane	1 123 106	23.5%	133 841	2.8%	109 379	2.3%
eThekweni Metro	1 049 185	18.5%	396 791	7.0%	189 897	3.4%
City of Cape	1 165 676	19.8%	191 542	3.3%	140 407	2.4%
Total	8 100 132	18.2%	1 675 262	3.8%	1 038 098	2.3%
2nd Quarter Ended 31 December 2011						
Nelson Mandela	608 792	34.5%	115 894	6.6%	44 698	2.5%
Buffalo City	140 940	19.6%	46 047	6.4%	25 944	3.6%
Mangaung	228 240	16.3%	69 668	5.2%	63 794	4.5%
Ekurhuleni Metro	1 025 916	11.8%	454 466	4.5%	290 390	3.3%
City of Johannesburg	2 318 482	21.5%	490 597	1.6%	488 943	4.5%
City of Tshwane	788 278	21.7%	58 902	6.1%	101 327	2.8%
eThekweni Metro	948 289	19.9%	292 293	4.5%	78 319	1.6%
City of Cape	1 115 410	22.2%	227 539	19.8%	152 612	3.0%

Source: National Treasury: 2011b:11. Local Government Revenue and Expenditure:

Third Quarter Local Government Section 71 Report: 1 July to 31 December 2011.

Press release. March 2012.

Table 1-2: Growth Rate Q3 of 2010/11 to Q3 of 2011/12

Metropolitan municipalities debtors age analysis as at 3 rd quarter ended 31 March 2012					
Nelson Mandela Bay	25.70%	-10.60%	-54.00%	14.00%	13.00%
Buffalo City	18.80%	18.80%	21.80%	13.70%	115.30%
Mangaung	6.1%	196.0%)	40.70%	19.80%	27.30%
Ekurhuleni Metro	11.30%	-3.40%	6.00%	13.90%	12.70%
City of Johannesburg	(17.9%	1345.60%	6.60%	33.70%	26.10%
City of Tshwane	43.8%)	55.10%	37.30%	30.00%	33.60%
eThekweni	-29.60%	14.90%	(6.0%	19.40%	8.00%
City of Cape Town	12.10%	-26.00%	15.10%	12.20%	10.20%
Total	-0.20%	55.40%	6.90%	21.90%	18.40%

Source: National Treasury: 2011c:11. Local Government Revenue and Expenditure: Third Quarter Local Government Section 71 Report: 1 July 2011 to 31 March 2012. Press release. 5 June 2012.

Nationally, the aggregate outstanding consumer debt amounted to R76.6 billion as at 31 March 2012 (National Treasury, 2011c:11). The largest component of outstanding consumer debt related to households, which accounted for 64.9% or R49.8 billion. Metropolitan municipalities were owed R45 billion in outstanding debt as at 31 March 2012. This represented an increase of R7 billion or 18.4% from the third quarter of 2010/11. The City of Johannesburg's outstanding debt represented 31.8% of all debt and was the highest of any metropolitan municipalities. In terms of movement from the corresponding period in 2010/11, the highest growth rate in debt was in the City of Tshwane Metropolitan Municipality (33.6%), Mangaung Metropolitan Municipality (37.3%) and City of Johannesburg Metropolitan Municipality (26.1%). Consumer debts owed to secondary cities amounted to R13.6 billion as at 31 March 2012 and has increased by R1.3 billion from the corresponding period the previous year. Household debt accounted for R9.8 billion or 72% of all outstanding debt. Consumer debtors owed over 90 days constituted a very large proportion of the total outstanding debt of metropolitan municipalities and secondary cities. In the case of metropolitans, it consisted of R34.5 billion or 76.8% of the total amount outstanding, compared with R13.5 billion or 80.6% of secondary cities. If the figures are compared year-on-year, the amount for debtors at over 90 days for the City of Johannesburg Metropolitan Municipality grew 33.7% and for 61 to 90 days only 6.6%. But, for 31 to 60 days, the growth rate was at more than 1 345.6% (National Treasury, 2011b:11).

Notwithstanding that Government owes municipalities, however, it can be argued that it is not the main defaulter in contributing to the debt. According to the statistics of the total amount of debt owed to municipalities, only 4.6% is owed by the government. Business and households represent 19.8% and 64.9% respectively of the R76.6 billion. It does not bode well for municipalities that they are owed these large amounts as their actual collection rate against billed revenue is also less than impressive. The numbers for the third quarter show that metropolitan municipalities had collected only 68% or R115,9 billion of the billed and other revenue of the total R170.6 billion budgeted in the adjusted revenue budgets for these municipalities. The two top performing municipalities in terms of collections were Ekurhuleni at 72.6% and Tshwane at 71.3% with Mangaung the worst performer at only 56.9%. According to the National Treasury (2011b:11), the underperformance of actual collections against billed revenue can, among other things, be attributed to, the affordability of municipal services by, for example, indigent people as compared to the elites.

Table 1-3: Total national debtors age analysis by income source

Total national debtors age by income source debtor age analysis	0-30 days	31-60 days	61-90 days	Over 90 days	Total
Water	10.1%	3.9%	3.8%	82.2%	26.5%
Electricity	32.9%	8.1%	4.2%	54.8%	16.6%
Property rates	13.2%	3.7%	4.4%	78.7%	23.0%
Sanitation	11.1%	3.8%	3.8%	81.3%	9.6%
Refuse removal	7.4%	3.5%	4.1%	85.0%	7.4%
Other	2.2%	3.0%	2.7%	92.2%	16.9%
Total	13.2%	4.3%	3.8%	78.6%	100.0%

Source: National Treasury: 2011b:11. Local Government Revenue and Expenditure: Third Quarter Local Government Section 71 Report: 1 July to 31 December 2011. Press release. March 2012.

According to Table 1-3, water and property rates together accounted for about half of all outstanding debt per source of income. With the exception of electricity, all other categories have a very high concentration of debt outstanding for over 90 days.

Table 1-4: Total debtors age analysis by group debtor

Total national debtors age analysis by customer group debtor age analysis	0-30 days	31-60 days	61-90 days	Over 90 days	Total
Government	12.3%	5.7%	8.0%	74.0%	4.6%
Business	27.1%	6.1%	4.2%	62.6%	19.8%
Households	10.0%	3.8%	3.5%	82.7%	64.9%

Source: National Treasury: 2011b:11. Local Government Revenue and Expenditure: Third Quarter Local Government Section 71 Report.1 July to 31 December 2011.Press release.March 2012.

Table 1-4 illustrates the age analysis in terms of customer group of which households owed 82.7% over 90 days as compared with business and government at 62.6% and 74% respectively. In concluding this section, the above tables show that there are elements of negativity in the confidence of the public in the billing system and hence the debtors books shows 74.0%, 62.6% and 82.7% owed by the government, business and households respectively.

1.5 PROBLEM STATEMENT

The municipal billing system created a vibrant local market in the past. The billing system existed to generate municipal accounts for municipal services and send them to a known clientele that was able to pay; willing to pay; had reliable postal services; had relatively reliable municipal organisations that ensured the presence of meters, effective meter reading and had relatively effective dispute resolution mechanisms. In the past, the municipalities were confined to a small geographical area that was manageable. As these municipalities were expanded and the new demarcation included the rural areas and informal settlements which were previously not part of the system, the existing systems could not cope with the challenges that they faced. To this end, the new demarcations have changed the whole scenario and as such a large part of the rural areas and informal settlements have been incorporated into the new set-up and this has an impact on the consolidated billing systems. The state of affairs has an effect on the management of customers for effective billing systems and customer relations.

It was assumed that the state of billing systems of municipalities was coupled with varying challenges which the municipalities were confronted with but no clear answer to that effect was available for feedback to the general public. Communities in various municipalities were not satisfied with the incorrect municipal bills that were issued to them. Protests were the order of the day (Department of Provincial and Local Government, 2004). The community problems were not handled or respected and responded to the communities as customers of the municipalities. In the light hereof, the purpose of this study is to seek answers to the above question.

The research problem therefore is that the municipal bills sent to customers were incorrect, inaccurate and revenue was lost. As a result public confidence declined and communities were unwilling to pay for the incorrect or inaccurate bills issued. This created a value-chain of challenges whereby debts accumulated and seemingly the municipal billing system had an impact on revenue collection in selected South African cities.

1.6 RESEARCH OBJECTIVES

The objectives of the study are:

- (i) to analyse the impact of the municipal billing system on revenue collection;
- (ii) to analyse the sources and types of revenues that can be impacted by the municipal billing system;
- (iii) to analyse the implications of the legislation on the municipal billing system and revenue collection; and
- (iv) to make policy proposals for best practices of the impact of municipal billing system on revenue collection in selected South African cities.

1.7 STUDY RELEVENCE

No scientific research has been conducted at academic level to determine the core of the problems as reported in newspapers, the public domain and municipal areas to share the information with the communities nationally and internationally about the state of the municipal billing system, debt and revenue management challenges. In the same way that an individual needs money to live, a municipality also requires money for infrastructure

development. Before money can be spent, it must be obtained from one source or another (Cloete, 1993:81). Finance is like oil that keeps the engine of the government going from seizing and without it there cannot be any infrastructure development in local government (Craythorne, 1997:391).

Municipalities are mandated to make adequate provision for basic services to the community. This requires adequate resources, which are to be raised from consumers. Inadequacies in management could be high proportions of non-revenue, poor billing arrangements, limited metering, non-viable pricing, lack of proper municipal dues collection and poor revenue recovery rates leading to commercially non-viable municipalities, as well as inadequate service coverage especially in the informal settlements to improve service delivery. The prevailing municipal billing system and revenue collection leaves much to be desired in that the billing is incorrect and the debt is accumulating. Moreover, revenue collection was traditionally plagued by high levels of inefficiency leading to poor service delivery. This led to unwillingness to pay among the consumers and consequently poor collection of water charges and financial losses to the municipalities. The rationalisation of municipal billing and collection system is one measure to improve fund mobilisation.

The research suggests that to improve the efficiency of the collection of service charges, the billing and collection system must be decentralised and easily accessible to the consumer, matched with the income cycle and paying capacity of the consumer. A mechanism for standardisation of the municipal billing system must be devised to reduce the cost of billing and collection through the involvement of community-based organisation and other relevant partnerships. This mechanism is expected to benefit both municipalities and the country at large. The municipality can choose one of the effective partners and may enter into an agreement for standardisation and integration of the billing and collection of revenue. There are prospects for a rapid increase in the external investment flow to improve service delivery in this sector. It is expected that efforts would be made to intensify mobilisation of revenue collection.

The study covers an analysis of the municipal billing system and revenue collection in the City of Johannesburg Metropolitan Municipality, Nelson Mandela Bay Metropolitan Municipality and Ekurhuleni Metropolitan Municipality and suggests measures for financial sustainability in the three cities. The study recommends the need for a sound municipal billing and collection system essential in respect of the taxes levied by the metropolitan municipalities and the amount collected by them. A sound municipal billing system ensures

the timely serving of demand notices and the collection of dues from individual customers, thereby enabling efficient cash recycling. An efficient billing system is essential for taxes levied by municipalities and their collection from consumers.

The study also provides an opportunity for further academic research in the field of municipal billing systems and revenue collection. This research will hopefully be a catalyst for future research, policy alternatives and planning for local government and academic institutions nationally and internationally regarding the municipal billing system and revenue collection fields.

1.8 RESEARCH METHODOLOGY

The study used both the qualitative case study and the quantitative approach to collect and analyse the data needed. The research problem informing this methodological approach is incorrect, inaccurate municipal bills sent to the customers and lost revenue due to incorrect and inaccurate bills, declining public confidence with regard to municipal billings systems and communities not willing to pay for the incorrect, inaccurate bills issued and debts accumulated. In examining this problem, the research begins with a description of the context of empirical analysis, of the local government system, municipal billing system and revenue collection in South Africa. This exercise is important as it provides a contextual framework for the analysis of the question that this research posits. Municipal billing systems and revenue collection in the field of public administration are critically analysed with the objective to determine the extent to which it recognises the impact on revenue collection in selected municipalities.

The study used qualitative and quantitative methods and the municipal billing system or software and revenue collection to build the basic foundation upon which the analysis of trends of municipal billing system and revenue collection in selected South Africa cities. The approach was used to locate existing sources such as National Treasury data sets, official and annual reports from selected municipalities, speeches, Auditor-General reports, existing literature, journals, newspapers, internet and other official correspondence and pieces of legislations.

1.8.1 Case study research

In analysing the municipal billing system and its impact on revenue collection, this research adopted a case study approach. Welman and Kruger (1999:190) define a *case study* as a qualitative research method of empirical inquiry that examines a unit of analysis in its real-life context. A *unit of analysis* refers to a subject of empirical analysis, which in this case is the City of Johannesburg, Ekurhuleni and Nelson Mandela Bay metropolitan municipalities. In this research, a case study method was used because the population in which human behavioural scientists are interested in is so large that from a practical point of view it is simply impossible to conduct research on all of them and it was imperative to obtain data from a sample of only three from selected municipalities out of 278.

According to Pfiffner (1940:43) and Johnson (2002:51) a *case study* is an intensive analysis of an individual unit e.g., a person, group, or event stressing developmental factors in relation to context. The case study is common in social sciences and life sciences. Case studies may be descriptive or explanatory. The explanatory type is used to explore causation in order to find underlying principles and may have potential to established criteria. To this end, cases fitting the criteria are included as they become available or retrospective for selecting cases from historical records for inclusion in the study. Case studies are analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or more methods. The case that is the subject of the inquiry will be an instance of a class of phenomena that provides an analytical frame for example an object within which the study is conducted and which the case brightens and expounds.

The case method to the study of Public Administration was popularised in the thirties. To this end, the case method has come to stay in public administration, but it cannot become the dominant approach. In Public Administration, a case study is essentially historical method in which an administrative decision, in any given question or issue, is made the focal point for historical exposition. Its aim is to point out as to what factors or considerations- political, economic, and personal or any other-influence the decision of the administrator and also to know the process of decision or policy-making (Pandian, 2010).

Rather than using samples and following a rigid protocol and strict set of rules to examine limited a number of variables, case study methods involve an in-depth, longitudinal examination over a long period of time of a single instance or event: a case. Case studies provide a systematic way of looking at events, collecting data, analysing information, and

reporting the results. As a result, the researcher may gain a sharpened understanding of why the instance happened as it did, and what might become important to look at more extensively in future research. Case studies lend themselves to both generating and testing hypotheses. Another suggestion is that a *case study* should be defined as a research strategy, an empirical inquiry that investigates a phenomenon in its real-life context. Case study research can mean single and multiple case studies, can include quantitative evidence, relies on multiple sources of evidence and benefits from the prior development of theoretical propositions.

Yin (1984) states that case studies should not be confused with qualitative research and they can be based on any mix of quantitative and qualitative evidence. Single-subject research provides the statistical framework for making inferences from quantitative case study data. To this end, the case study is a research approach, situated between concrete data taking techniques and methodological paradigms.

1.8.2 Qualitative research methods

The aim of this research method is to provide a comprehensive and systematic analysis of literature relating to municipal billing systems and their impact on revenue collection in order to establish the current state in the domain along a number of dimensions such as units of analysis, research paradigm employed, technology examined, theoretical models and constructs (Wessels and Pauw, 1999:408). The positivist paradigm, empirical and quantitative research were used predominantly in reviewing the topics in municipal billing systems, revenue and debt collection.

For the purposes of this research the following sources were used: academic journal, reports on the three selected cities by the cities and National Treasury, other organisations in South Africa and internationally, and web electronic data science search moreover, restricting, the research activities to single-publication database removed many of the potential problems of duplicating inherent in the use of multiple data sources. The web-based products provided two main search technologies with the general search and advanced search options. The search technique used in this research exercise was the general search approach as it was user friendly in using characteristics to facilitate the replication of searches without any mystification, making it an uncomplicated process to obtain consistent results in repetitive searches, provided the same search criteria applied. The principles of qualitative research encompass primary and secondary sources. In the majority of cases, the secondary source was

used to enrich the research study, due to the fact that it provided second-hand information about events.

According to Welman and Kruger (1999:186), in the human behavioural sciences, historical research is especially applicable to sociology, criminology, law and education. Historical researchers have to locate existing sources, for example, newspaper reports, law reports, official statistics and relics in which information from the past has been preserved. Using this type of methodology the research in no way interferes or intervenes with events and typically does not observe them directly, but describes, analyses, and interprets those which have already taken place. The historical research is normally used in the primary and secondary sources. In historical research, it is imperative to give preference to primary rather than secondary information sources and the reason is that with the transfer of information from one source to another, the information may be inadvertently or deliberately distorted.

Qualitative research asks broad questions and collects word data from participants; however, this research was limited to an analysis of reports as opposed to asking questions from participants. In terms of qualitative research, the researcher identifies themes and describes the information in themes and patterns exclusive to that set of participants. It should be noted that qualitative methods produce information only on the particular cases studied, and any more general conclusions are only hypotheses. Quantitative methods can be used to verify, which hypothesis is true (Lauara and Leahey, 2008:290-306). Kuhn (in Garber, 1996:16) concludes that large amounts of qualitative work have usually been prerequisite to fruitful quantification in the physical sciences. Qualitative research is often used to gain a general sense of a phenomenon and to construct theories that can be tested using further quantitative research (Garber, 1996:283). For instance, in the social sciences, qualitative research methods are often used to gain better understanding of such things as intentionality.

1.8.3 Quantitative research methods

According to Lauara and Leahey (2008:290-306), in the social sciences, *quantitative research* refers to the systematic empirical investigation of social phenomena via statistical, mathematical or computational techniques. The objective of quantitative research is to develop and employ mathematical models, theories and/or hypotheses pertaining to phenomena. The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships (Wessels and Pauw, 1999:407). Quantitative data is

any data that is in numerical form such as statistics and percentages. In this research, quantitative research was used to analyse data with regard to the statistical information gathered from the National Treasury, City of Johannesburg Metropolitan Municipality, Nelson Mandela Bay Metropolitan Municipality, Ekurhuleni Metropolitan Municipality, Statistics South Africa and the office of the Auditor-General. To that end, data was analysed with the help of statistics and computers. The computation of numbers yielded an unbiased result that could be generalised to a larger population.

1.9 SAMPLE POPULATION

There are 278 municipalities in the Republic of South Africa (Municipal Demarcation Board, 2010). Three of the above municipalities were selected in the Gauteng and Eastern Cape provinces for the case study research. A population of 278 municipalities in the country could be used, and the research could last longer than expected and the time frames expire before a conclusion had been reached. It was therefore imperative to select only three municipalities so that the study could be managed and concluded within a reasonable time. Case studies were, therefore, used as a research mechanism method to manage the research. Case studies are complex because they generally involve multiple sources of data, may include multiple cases within a study and produce large amounts of data for analysis.

Researchers from various disciplines use the case study method to build upon theory, to produce new theory, to dispute or challenge theory, to explain a situation, to provide a basis to apply solutions to situations, to explore, or to describe an object or phenomenon. The advantages of the case study method are its applicability to real-life, contemporary, human situations and its public accessibility through written reports. Case study results relate directly to the common reader's everyday experience and facilitate an understanding of complex real-life situations. The sample population was selected at random because of the environment in which they are on themselves in terms of the municipal billing system and revenue collection dynamics. Table 1-5 shows the relationships between the research objectives, research method, objective, units of analysis, and points of focus, categories and sources of data for the purposes of this research.

Table 1-5: Illustration of the relationship between units of analysis

Illustration of the relationship between a unit of analysis , characteristics, categories of data, sources of data and methodological skills		
Problem statement	What is the impact of the municipal billing system on revenue collection in t selected cities Republic of South Africa?	
Purpose	To analyse and describe	
Macro Research Methods	Qualitative, quantitative and case study	
Research objective	To describe the impact of the municipal billing system on revenue collection in the Nelson Mandela Bay metropolitan municipality, the City of Johannesburg metropolitan municipality and Ekurhuleni metropolitan municipality	
Unit of analysis	Nelson Mandela Bay metropolitan municipality, the City of Johannesburg metropolitan municipality and Ekurhuleni metropolitan municipality	
Points of focus	Municipal billing system and revenue collection	
Categories of data	Human behaviour and human characteristics	Products of human behaviour and human characteristics
Sources of data	Municipal and government officials Taxpayers Members of communities	Minutes of meetings Policy documents Annual reports Financial reports Legislation Departmental files Other official documents
Methodological skills	Mainstream social science methodological skills Qualitative research methods and case studies	Historiography to narrate a story Reading and understanding of meaning

Technique of data collection	Participant observing Interviews	Reading and understanding of documents
Techniques of data analysis and interpretation of which the purpose is to explain, describe and explore	Qualitative data analysis Quantitative data analysis (if a survey is used) Case studies	Interpretation of documents Comparative explanations Development explanations Descriptive explanations Predictive explanations Theoretical explanations Questionnaires completed by researcher Electronically captured data Bivariate analysis Multivariate analysis Descriptive statistics

Source: Wessels, J.S. and Pauw, P.C.1999: 412-415. Reflective Public Administration: Views from the South. Cape Town: Oxford University Press.

1.10 LIMITATION OF THE STUDY

The limitation for this research emerged out of lack of information from the units of analysis regarding the municipal billing system and its impact on revenue collection. The information which could have been sourced from the practitioners would have enhanced the knowledge gathered regarding the municipal billing system and revenue collection. Another limitation is that currently, no books have been written on the municipal billing system in South Africa. Garber (1996:285) maintains that the progression from a research topic to a research question can be seen as a sifting process and this process is activated by determining what research has already done

The kind of investigative process would then involve a study of the literature and posing questions. There is inadequate reporting regarding the municipal billing systems in the municipalities by office of the Auditor-General because the audit outcomes on municipal billing challenges are lacking or non-existence. Seemingly municipalities are not prepared to report and disclose the challenges they faced with regarding municipal billing systems. It could be concluded that there is no transparency regarding the challenges which

municipalities are faced with in so far as the municipal billing system and its impact on revenue collection is concerned.

However, this study is unique in the field of financial administration focusing on the municipal billing system and its impact on revenue collection and as such it is a starting point to investigate challenges faced by municipalities in South Africa. The study focused on the three metropolitan municipalities and the information used was sourced from the National Treasury, municipal websites and the internet regarding literature on municipal billing systems and revenue collection. This research does not suggest that the concepts, findings, conclusions and recommendations as analysed in this research are definitive. Based on this assertion, further research is suggested to resolve the municipal billing system challenges sufficiently.

1.11 ORGANISATION OF THE STUDY

The study of the impact of the municipal billing systems on revenue collection will be structured as indicated below:

Chapter 1 focuses on the outline of the study in terms of setting a scene and introducing the historical background of local government in South Africa as it relates to the interim and transitional phase, establishment phase, consolidation phase, local government finances, legislative mandates, municipal financial systems, municipal billing systems, revenue collection, the problem statement, research objectives, research methodology, sample study or population, relevance of the study, limitation of the study and organisation of the study.

Chapter 2 focuses on the conceptualisation of public administration as a function and discipline; the role and development of public administration, describing the first-second-third generation scholars; and the new public administration to date; the development of municipal government and administration; generic administrative processes as critical environment where municipal billing systems and revenue collection are located such as policy-making, organising, financing, personnel, procedures and control; the relevance of public administration towards municipal administration in terms of highlighting the origin of the state, why the need of state is necessary, the role of the state and concludes with a focus on the environment of public administration regarding political, social, economic, technological and international environments.

Chapter 3 outlines the structural analysis of the municipalities in South Africa focusing on the spheres of government. The spheres of government as stated in the *Constitution* highlight critical roles and responsibilities of local government. This chapter will also analyse the spheres of government since 1910 to 1993 regarding the allocation of functions, intergovernmental relations, local government fiscal framework and structures, municipal planning functions, powers and functions of municipalities, municipal structures and profiles of the three case study municipalities namely the City of Johannesburg Metropolitan Municipality, Ekurhuleni Metropolitan Municipality and the Nelson Mandela Bay Metropolitan Municipality.

Chapter 4 discusses the following issues; namely sources of revenue of municipalities such as property taxes, services charges, borrowing or capital financing which are impacted by the municipal billing systems, centering around the generation of revenue, the Division of Revenue Act, revenue trends in the selected municipalities, perspective on information or billing systems, purpose and key local government financial systems and applications and the case studies on municipal billing systems in the City of Johannesburg, Ekurhuleni and the Nelson Mandela Bay Metropolitan Municipalities.

In chapter 5, the challenges regarding the impact of the municipal billing system on revenue collection are analysed, as well as the challenges of revenue collection, municipal billing systems, billing challenges cited by external organisations, billing system and revenue collection performance, debt management, trends regarding debts in the selected cities and the impact of legislation on the municipal billing systems and revenue collection.

Chapter 6 concludes the analysis in terms of providing the conclusion and recommendation of the research. The study highlights on the high-level pertinent issues regarding the impact of the municipal billing system on revenue collection in the selected cities. The study does not concentrate on the in-depth day-to-day running of the municipalities, nor seek to nurture and compile all the demographics in these municipalities. The impact of municipal billing system on revenue collection is a vital study which warrants further research in selected South African cities.

1.12 CONCLUSION

As an introductory chapter, the necessity to outline the intended approach in conducting this study cannot be over emphasised. In light hereof, the study focused on the background of local government in South Africa appertaining to the interim phase, interim phase and transitional councils, establishment and consolidation phase, local government finances during transition, legislative mandates of local government, municipal billing systems, revenue collection, problem statement, research objectives, study relevance, research methodology in terms of the case study method, qualitative method and quantitative methods, sample population, limitation of the study, organisation of the study and conclusion. The chapter that follows will focus on public administration and its relationships to municipal administration.

CHAPTER 2: PUBLIC ADMINISTRATION AND ITS RELATIONSHIP TO MUNICIPAL ADMINISTRATION

2.1 INTRODUCTION

Chapter 1 provided the background regarding local government in South Africa, highlighting the legislative foundations and the three phases of transitional local government, which was ushered in in 1993. The chapter also discussed the local government finances during the transition, municipal billing system and revenue collection trajectory, the problem statement for this study, objectives of the study, study relevance, limitation of the study, followed by the organisation of the study in terms of the chapters.

For the purposes of this research, this chapter provides an overarching understanding of the environment of public administration globally and complements it with the South African experience. An understanding of public administration, its development and the link to municipal administration must be established. On the basis of the above state of affairs, this chapter focuses on the conceptualisation of public administration and its relationship towards municipal administration. The role and development of public administration will be analyzed and the contemporary public administration, the generic administrative principles such as policy, organisation, control, finance, human resources and procedures will be discussed. All the above aspects will be analysed in relation to municipal administration. The theory paradigm as it relates to the role and purpose of the state, why it is needed and what its functions are in terms of protecting or stabilisation, the regulatory and the economic functions will be analysed. The environment of public administration in relation to the political, economic, social, technological and international environment will form the basis of this study.

In order to understand the complexity of the municipal billing system and its impact on revenue collection it is useful to conceptualise public administration in terms of vertical and horizontal axes; horizontal axis in that decision making can be contextualized as occurring at multiple levels such as households, districts, provincial and national; while the vertical axis is intertwined across these multiple levels. To this end, decisions and information travel along discrete channels which are dominated by many departments nationally and provincially.

This chapter is a foundation to analysing the municipal billing system and revenue collection with the understanding that these two variables operate in the public administration environment, which links with the municipal government and administration and municipal financial management and administration regarding the public administration environments and generic administrative functions.

2.2 CONTEXTUALISATION OF PUBLIC ADMINISTRATION

Public administration is dynamic as it happens where more than one person works together to accomplish objectives, it is the implementation of government policy, and the academic discipline that studies the implementation and also prepares civil servants for working in the public service. Undertaking research on the municipal billing system and revenue collection is also complex and happens in the municipal administration space where taxpayers predominately operate in this particular setting. It is, therefore, critical that the subject matter of public administration be unpacked and understood in perspective. Once that understanding is inculcated in one's line of thinking, one is to concretise the subject matter especially with reference to the municipal billing system and revenue collection, which take place in the dynamic public administration environment.

The objectives of public and private management differ, and in public administration, there are or should be democratic influences which affect the way problems and needs are considered, analysed and solved. It is sometimes tempting to adopt the business-like jargon of private sector management, but the danger of this lies in the possibility of introducing into the public affairs, methods which are inappropriate and not easily adaptable to democratic norms. The end result could be a form of technocracy, which, in ignoring human values and societal norms, becomes cold and remote and self-defeating. These few thoughts do not mean that useful aids and techniques should not be borrowed from private sector management: on the contrary, there are aids and techniques, such as the programme evaluation review technique or network planning, which are of considerable value; the plea is to avoid confusion in objectives.

Henry (in Craythorne, 1990:49-52), Rosenbloom, Kravchut and Clerkin (2009:4-15) state that *public administration* is a broad-ranging and amorphous combination of theory and practice, with the purpose of promoting a superior understanding of government and its relationship with society, encouraging public policies more responsive to social needs, and instituting

managerial practices attuned to effectiveness, efficiency and the human needs of citizens. It may be deduced that public administration is a consequence and part of the politics of society.

2.2.1 Definition of public administration

Public administration is the accomplishment of politically determined objectives and it is more than the technique or even the orderly execution of programmes (Cloete, 1988:16-20 and Dimock and Dimock, 1969:3). However, public administration is also concerned with policy; for in the modern world, bureaucracy is the chief policy-maker in government (Marx, 1947:7). As public administration is problem solving, it is as much involved with the formulation of the policies by which agencies are guided, as it is with the execution of policies through practical, down-to-earth, action-oriented programmes (Cloete, 1989:3 and Rowat, 1961:3).

Whether considered as a study or as a career, public administration is highly practical because it deals with the co-operative efforts to achieve common goals with increasingly sophisticated techniques. Its mastery does much to determine national living standards, as the experience of developing countries plainly shows. Public administration is also an intellectual challenge because so much depends on the subtleties such as cultural differences, psychological states of mind, variations and gradations in the values cherished by diverse societies, and especially the balance of factors needed to achieve a unity for a particular purposes at a given time, and with a given supply of resources (Dimock and Dimock, 1947:7). Public administration is presumably an aspect of more generic concept, namely administration, the essence of which has been described as determined action taken in pursuit of conscious purpose. Public administration is that sector of administration found in a political setting (Heady, 2001:2).

Democratic control by way of the rule of law, accountability, legislative relationship, supervision by legislature, the chief executive and higher operating officials, the ombudsman, code of ethics, professional pride, citizen advisory committees, wide dissemination of information to citizens and voters are apparent in public administration (Denhardt and Hammond, 1992:9). In the light of the above, the municipal administrator's attention is equally claimed by the external and the internal aspects of his or her job, and both are equally important and interesting to him or her. Beginning with the external factors, if cities are to be made more habitable, educational and employment opportunities for all races and classes enhanced, the extremes of inflation and depression avoided, informal settlements avoided, and assistance to indigent communities and the power improved to name only a few areas, then each responsible municipal administrator must think through the substances, the

priorities, for example, the municipal billing systems and its positive impact on revenue collection, the processes such as metering operations and the billing integrity, billing sequencing and billing circles, and the time schedules in case and in relation to others and then apply the tools of management to the execution of a solution.

The North American Industry Classification System (NAICS 91) defines Public Administration which is comprised of establishments primarily engaged in activities of a governmental nature, that is, the enactment and judicial interpretation of laws and their pursuant regulations, and the administration of programs based on them. *Public administration* refers to the administrative activities which must be carried out and which are linked to the functional activities of the various public institutions (Appleby, 1947:93-99 and Fesler, 1980:16).

Governmental institutions are generally classified into three main groups, namely legislative, executive and judicial institutions (Cloete, 1986:3-5). From the academic perspective, the National Center for Education Statistics (NCES) in the United States defines the study of Public Administration as: "A program that prepares individuals to serve as managers in the executive arm of local, state, and federal government and that focuses on the systematic study of executive organization and management, including instruction in the roles, development, and principles of public administration, the management of public policy, executive-legislative relations, public budgetary processes, financial management, administrative law, public personnel management, professional ethics and research methods".

McKinney and Howard (1998:60-62) state that public administration is viewed as the accomplishment of purpose through the organised efforts of others, consists of the following activities: to mobilise organisations, human resources both public and private, to translate policy statements as publicly determined into programmes and action and to permit the translation of ideas into actions which will ultimately enhance the lives of people. Peters and Pierre (2003:7) state that public administration stands at the intersection of theory and practice.

2.2.2 Public Administration as a discipline

The Organisation for Economic Co-operation and Development (OECD) uses the concept of governance to bring clarity into the even fuzzier distinction between public administration and public management. The OECD defines governance in terms of relationships rather than

structures, and thus includes more than public administration and the institutions, methods and instruments of governing. To that end, governance encompasses the set of relationships between governments and citizens, acting for individuals and as part or through institutions, e.g. political parties, productive enterprises, special interest groups and the media (OECD, 1996:11). According to this definition, Public administration is the rather mundane tasks of properly taking care of the organisational side of the government. Public management, on the other hand, is concerned with managing the governance process, and encompasses the broad range of techniques and strategies that are used to carry out the responsibilities to governments, e.g. managing economic development and it goes beyond the structure and administration of public service (Farazmand and Pinkowski, 2007:575).

Public administration houses the implementation of government policy as well as an academic discipline which studies this implementation and prepares civil servants for this work. As a "field of inquiry with a diverse scope" its "fundamental goal... is to advance management and policies so that government can function." Some of the various definitions which have been offered for the term are: "the management of public programs" (Denhardt and Denhardt, 2009:2); the "translation of politics into the reality that citizens see every day" (Fesler and Kettl, 2009); and the study of government decision making, the analysis of the policies themselves, the various inputs that have produced them, and the inputs necessary to produce alternative policies (McKinney and Howard, 1998:61-62).

According to Fesler and Kettl (1991:7-14) and Gladden (1961:12), public administration is centrally concerned with the organization of government policies and programmes as well as the behaviour of officials formally responsible for their conduct. Many unelected public servants can be considered to be public administrators, including heads of city, county, regional, state and federal departments such as Municipal Budget Directors, Human Resources administrators, City Managers, Census Managers, state or Mental (Health) Directors, and cabinet secretaries. Public administrators and Municipal administrators are public servants and municipal workers in public departments and municipal councils and agencies, at all levels of government.

In order to trace the history of Public Administration as an academic discipline, there is a need to understand the developments which led to the use of Public Administration as a field of study. Woodrow Wilson is generally accredited with having introduced administration as a self-conscious discipline in the United States with the publication of his essay in *The Study of*

Public Administration in 1887 (Barton, 1985:234-235 and 363). Various scholars maintain that in the United States, civil servants and academics such as Woodrow Wilson promoted American civil service reform in the 1880s, moving public administration into a new direction (Woodrow Wilson, 1887). The field is multidisciplinary in character. In academic circles, the field of Public Administration consists of a number of sub-fields and scholars proposed a number of different sets of sub-fields.

One of the proposed models uses five pillars namely *human resource management* as an in-house structure that ensures that public service staffing is done in an unbiased, ethical and values-based manner (Shafritz and Hyde, 2007):

- (i) the basic functions of the human resource system are employee benefits, employee health care, compensation;
- (ii) organisational theory in Public Administration is the study of the structure of governmental entities and the many particulars inculcated in them;
- (iii) ethics in public administration serves as a normative approach to decision-making;
- (iv) policy analysis serves as an empirical approach to decision-making; and
- (v) public budgeting is the activity within a government that seeks to allocate scarce resources among unlimited demand.

Fesler (1980:2) and Farazmand and Pinkowski (2007:208) state that public administration is policy execution and formulation. For the purposes of the research, it is imperative that Public Administration as an academic discipline be understood in perspective by municipal administrators and practitioners so that they will be able to plan and implement municipal policy replicating the work of public administration programmes. The understanding of Public Administration as a discipline will assist to research topics as they relate to municipal billing systems and their impact on revenue collection. It can be stated that public administration is a field of inquiry with a diverse scope, of which the fundamental goal is to advance management and policies so that government can function.

In conclusion, public administrators, municipal practitioners and scholars should have an understanding of Public Administration as an academic discipline because it is critical for the discipline to continuously adapt to change to be on a par with the present times and what is happening around the globe. The scholars and researchers are strategically situated to assist government to get to know what other countries are doing so that government is able to reposition itself for such new developments in the field of public administration. For example, the current study of the municipal billing system and revenue collection will assist

government with solutions based on the work that is done for public and municipal administration. If the study of public administration is not an academic discipline then government will have a problem and would remain in the past for the wrong reasons. Public administration can be compared with Public Administration as an academic discipline in the study of the municipal billing system and revenue collection in one country. Such systems and how revenue is collected as best practice can be compared with those of other countries. The exchange of information in terms of best practices can be used in other countries.

2.2.3 International public administration

In terms of this study, international public administration plays a pivotal role in the development of public and municipal administration by exposing to scholars, researchers and government officials in public policy planning and application. The international field can also enhance the application of municipal billing systems and revenue collection in South Africa through the exchange of best practice, intelligence, knowledge and global software solutions, which can be used by various municipalities.

There are several organisations that are active the world over. The oldest is the International Association of Schools and Institutes of Administration (IASIA). This institution is based in Brussels, Belgium, and it is an association of organisations and individuals whose activities and interests focus on Public Administration and Management. The activities of its members include education and training of administrators and managers. The International Committee of the US-based National Association of School of Public Affairs and Administration (NASPAA) has developed a number of relationships around the world. They include sub-regional and national forums such as the Centre for Latin American Administration for Development (CLAD), Inter-American Network of Public Administration Education (INPAE), NISPACee, the American Political Science Association (APSA) and American Society of Public Administration (ASPA). These organizations and others have helped to create the fundamental establishment of modern public administration.

For the purposes of this research and in particular the municipal billing systems and revenue collection, it is imperative to highlight the aftermath of the global financial crisis that occurred in 2008. Financial crises, defaults and concern over financial management led to the imposition on taxes, expenditures and indebtedness in many states and localities. Furthermore, professional accounting and auditing standards began to develop rapidly and be applied to governmental operations (Rabin, 1992:241-249). The professional accountants,

auditors and budgeters have developed professional standards over the last half century. The generally accepted accounting practice was developed under the auspices of the National Council on Government Accounting (NCGA), published by the Government Finance Officers Association (GFOA, formerly MFOA). The NCGA's 13 basic principles were published in 1968 in *Government Accounting, Auditing, and Financial Reporting*, the “blue book” or GAAFR. In 1984, NCGA was supplanted by the Governmental Accounting Standards Board which continues to propose statements and interpretations that are incorporated into professional accounting standards. In South Africa, there is Institute for Municipal Financial Officers, general accepted municipal accounting practice (GAMAP), general accepted accounting practice (GAAP) and general recognised accounting practice (GRAP).

These institutions and practices guide the planning and implementation of billing systems revenue collections. Accountants all over the world determine generally accepted accounting practice (GAAP), because they all belong to an institute, in South Africa, it is the South African Institute of Chartered Accountants (SAICA). SAICA publishes statements setting out GAAP, which all accountants have to follow in financial accounting. External financial reports need to follow uniform rules as applied nationally and internationally, because the users, particularly financial institutions, should be able to understand the financial position of the municipality concerned. Financial accounting therefore has to comply with GAAP (Planact, 2001:2). SAICA plays an important role in the shaping of the accounting regarding municipal billing systems, financial management in general and revenue collections. Each profession, each discipline, has its own language. Accounting is no exception and is a communication medium in the financial world, a medium which is specialised for communicating financial information. It is essential for financial information to be truly and fairly presented and often a high degree of accuracy is required of financial information.

To bring order into the accounting and reporting process including the municipal billing systems and revenue collection, an underlying basis for the measurement and disclosure of the result of the organisation's transactions and events has been developed. This basis is the set of concepts, principles, methods and procedures collectively known as GAAP. International public administration organisation play a crucial role in the development of Public Administration as a field of study by way of ensuring that public administration is put on the global map and practitioners, governments, municipal councils, researchers and scholars are continuously updated during seminars, through various journal materials, reviews and other public administration awareness campaigns. Researchers and scholars also offer scholarly topics regarding information technology and revenue collection which topics are

also relevant for the study of the municipal billing system and revenue collection in local government in South Africa.

2.3 ROLE AND DEVELOPMENT OF PUBLIC ADMINISTRATION

Various scholars, researchers and institutions have played a critical role in the development of public administration. Public administration has also played an instrumental role in the shaping of government policies in institutions including municipal government and administration. Public administration has played a major role in the development and shaping of municipal billing systems and revenue collection.

Public administration has evolved since the early stages of its development (Cloete, 1988:32-42). As public administration was beginning to differentiate from political science during the early twentieth century, business administration began in turn, to break away from the aegis of economics to become a specialisation in its own right. Under the influence of developing technology and the leadership of Fredericks Taylor, engineers and business managers joined forces to produce the scientific management movement.

The practical needs of newly developing nations also have created a kind of integration of the various approaches to public administration for the simple reason that if they did not, nothing else of consequence would have occurred. The acknowledgement was that there must be strong leadership, organisation, revenue and a minimum of trained administrators in these countries before scientists or educators or planners or even businessmen can do significant work. The highest priority in developing countries, therefore, is generally acknowledged to be public administration that produces immediate practical results. To this end, the development of public administration in the United States has been marked by a series of emphases. And although none of these emphases wholly excluded those that had preceded it, few real attempts have been made even to this day to create a complete synthesis.

A conscious popular concern with Public Administration took form in 1882 when Woodrow Wilson wrote his now classic essay on “The Study of Administration” in which he pleaded for a more businesslike efficiency in government. The country was ready for civil service reform, aimed especially at frustrating the political appointee and in 1883 congress passed the Pendleton Act, which created the federal civil service system (Dimock, 1964:27-29). According to McKinney and Howard (1998:8), assurance to constitutional norms is of a

particular concern in other nations such as the American system of government in view of the strong emphasis on individual interest, accountability to citizens, sovereignty issues, division of powers between the federal and state governments and the system of checks and balances.

Thornhill (2006:796) identified the root cause of public administration and determined that in the development of public administration four generations were distinguished as follows: the pre-generation, the first generation, second generation and the fourth generation. The generation during the antiquity stage was the first generation where Woodrow Wilson argued the separation of politics from administration, the second generation championed the mechanistic approach and the fourth generation of Gulick and others opposed the foundations laid by Woodrow Wilson. It stands to reason that the scholars checked how government reacted to what was happening in the field of politics and administration.

According to Thornhill (2006:796), the third generation arose after 1945 and further questioned the ideas of Wilson and the second generation scholars that started the distinction between politics and public administration was strongly relativised by the third generation and that the discussion would continue. However, due to various political scandals, public administration as a science had to detach itself from politics. According to Fourie (2006:434), the relationship between politics and public administration in modern society has required a redefinition of the role of government with reference to the utilisation of power, which raises the issue of governance.

2.3.1 New public management

The essence of new public management is borrowing and applying the concepts and techniques of private sector management into public sector management and reduce the functions of the public sector through contracting out and privatising (Farazmand and Pinkowski, 2007:557 and 891-898). New public management stimulated paradigm competition among academics in the 1960s and 1970s and generated yet another intrafield in terms of the newness feasibility, and purpose of the contemplated changes. Farazmand and Pinkowski (2007:1157) argue vigorously that the new paradigm betrays the public interest by subverting the authority of legitimately elected officials. For the professionals and practitioners, the new value focus and liberation from the field's conventions carried costs, especially legitimacy costs. New public administration in essence started prominently in 1968. This is the year in which younger scholars were furious with accepting the status quo

and ignoring values and social equity. The scholars who can be accredited with this view are Dwight Waldo, Alice Rivlin, Carol Weiss, and Griggs v. Duke, Peter F. Drucker and Regents v. Bakke.

De Vries, Reddy and Haque (2008:184) state that the new public management model seeks to usher in streamlined and improved government, decentralisation and empowerment, customer satisfaction and enhanced mechanisms for public accountability. New public management has been described as managerialism or market based public administration. The new public management concept of best practice that aims to improve local government management is one-stop shops and agencies where citizens can deal with several public services at the same address or the same website thus avoiding the hassle of going to different departments to obtain information and solve their problems with the government. In the South African context, the Thusong centre model or multipurpose centres are an example of the new public management concept which can be replicated the world over.

The pre-generation, first and second generation scholars and even the new public management scholars play a pivotal role in the field of Public Administration as a discipline and function. The scholars assisted the new generation scholars and researchers to have a clear perspective of where public administration comes from and also charted a future discourse regarding the direction which public administration is taking. Their contribution can also assist in the municipal billing system and revenue collection especially as they relate to the new public management model in terms of service provision to the citizens of a country.

Public budgeting and financial management in the twentieth century are largely a story of executive-legislative relation, effort to control government spending and curb corruption and abuse; intergovernmental relations, and changing ideas and technology in administration. The Information Technology has become a major industry throughout the nation, and it is unlikely that efforts to reverse the trend will succeed. It is ironic that the threat to data availability and integrity runs counter to contemporary management emphasis on hard data in decision-making and the use of qualified, analytic tools in budgeting. The move towards performance and outcomes measure and cost-benefit analysis is a case in point that purportedly deals with governmental, accountability and disclosure or transparency (Rabin, 1992:357-382).

2.4 DEVELOPMENT OF MUNICIPAL ADMINISTRATION AS A SUB DISCIPLINE

As an interdisciplinary field, municipal government and administration are closely related to the other social sciences such as political science, economics, sociology, anthropology and psychology. It also draws from other fields of organised knowledge, such as science, public administration, technology and engineering. Public administration is sociological in its breadth and in its organic, cultural approach, but is always practical in intent. It is not enough simply to analyse; in the daily programme of government, millions must also act, or anarchy would soon take over (Dimock, 1964:10-12).

Public Administration has a place in the study and function of municipal government administration. This stems from the fact that the two most important functions of government are policy determination and policy execution or administration and each should be subject to continuous and careful study. Based on the premise that personnel and money are involved, municipal administration embraces well over 90% of all governmental activity supported by municipalities (Phillips, 1960:10). In the process of democratic government, the first step is to determine what people want government to do; that is, to determine public policy.

Municipal administration has much in common with state and national administration. The basic principles of public administration are much the same at all levels, but the circumstances under which they are applied may vary considerably, not only from one level of government to another but also from one jurisdiction to another at the same level. Therefore, there is much to be learnt from the study of administration and in particular administrative experiences in the enormous laboratory embracing thousands of municipalities varying greatly in population, resources and problems. Pandian (2010) states that public administration is concerned with the management of public programmes, which interact with the residents, the community or region and municipal administration also manages public programmes at local level.

2.5 GENERIC ADMINISTRATIVE FUNCTIONS

The generic administrative processes or functions are the core in formulating mechanisms or machinery for good governance and best practice. Without proper policy-making, organisation, financial accountability, proper procedures, control measures and sufficient

trained and resourced personnel, good governance will be found wanting in a municipal environment. The above state of affairs namely lack of good governance machinery can have an effect on the municipal billing systems and its impact on revenue collection and thus revenue collection. It therefore stands to reason that the planning and implementation of a quality municipal billing system, which will impact positively on revenue collection, is a best practice which cannot be left unattended. Cloete (1997:22-30) and Cloete (1988:12), categorises the general administrative functions into six functions namely policy-making, organising, financing, staffing, determining work methods and procedures and controlling. All these functions are known as enabling functions and must always be undertaken to achieve the goal.

2.5.1 Policy-making

Municipal billing systems and revenue collection have to be regulated in order to ensure that the objectives for which they were intended are realised. There is a need for policy direction in terms of driving the planning and implementation of the municipal billing system towards a positive impact when revenue is collected. Without a clear policy, bills data will remain inaccurate for a long time and this can have an impact on public confidence in the systems of local governance. It is critical to define what policy is before discussing policy-making in general.

2.5.1.1 Policy in context

Craythorne (1990:58-59) contends that “No public body can operate without one or more policies and so it is fruitful to look at what is meant by policy, and whether it has any significant in the local government sphere. It follows that policies are concerned with events to take place in the future arising from or based on events in the present or past. It also follows that before a policy can be determined, adopted, recognises issue; that issue must be considered or investigated; a decision must be taken, and that decision has to be translated into action”.

Policy-makers must ensure that there are clear policies in terms of the type of technological infrastructure to be deployed to municipalities for billing systems and revenue collection. A proper and quality system can have a positive impact on revenue collection as correct bills can be generated and issued to taxpayers. Policy-makers should minimise the question of revenue dichotomy in the municipal billing system in order to enhance revenue collection.

Once the dichotomy persists, it would mean that the politics will override the revenue collection and the work that can be done to ensure that the municipal billing system infrastructure is an effective tool that can ensure that potential revenue collection is done with minimal loss, or to put it somewhat differently, instead of it impacting positively on revenue collection, it will be going in the negative direction. Through proper policy-making, the leadership of the municipality display that they are responsible and accountable towards the municipal billing system and revenue collection success and practices.

Cloete (1995:102) maintains that legislation and other directives cannot provide constant policy statements for every eventuality. The usual policy-making procedure is that the political executive office-bearers will obtain the approval of the conferences or caucuses of the ruling party for proposals to be submitted to the legislatures concerned, and to translate the policy of the ruling political party or proposals by the officials into the policy of the government of the day. To this end, municipalities can formulate policies where need be on the outsourcing of billing and collections in order to have an efficient municipal billing system and maximise revenue.

Typically, billing and collection practices are outsourced through service contracts where the public authority retains overall service responsibility, except for the specific components that are contracted out to the private party. Other forms of contracting are management and after-image contracts that attempt to ensure improved management of service delivery operations by outsourcing overall operations to the private operator. These contracts introduce greater incentives for efficiency by defining performance targets and linking part of the operator fee to the fulfilment of performance targets (Worldbank, 2008:12).

According to Parsons (1995:207), public policy-making takes place in the context of the constraints of economic, social, geographical, historical, and cultural and globalisation limits, which public policy-makers engage in judgements as to what these realities are.

2.5.1.2 Political policy level

There are various levels of the policy-making process which have to be considered when policies are formulated. Political policy, which is the policy of the ruling political party or parties, is the highest policy level in the public sector. The governing party or parties set

policies which point the way in which the authorities will direct community life (Cloete, 1994:94).

(a) Role of political office-bearers in implementation of policy

The political executive institutions (Cabinet, provincial executive councils and municipal councils) and office-bearers (Ministers and Deputy Ministers, members of the provincial executive councils, members of the executive mayoral committee) have to take the initiative in the implementation of policies by legislation. The legislation could state what should be done, and perhaps also how, where and by whom it should be done. The implementation stage of a policy consists of activities such as financing, staffing (personnel provision and utilisation), organising, determining of work procedures and determining of control measures (Cloete, 1995:95). The formulation of a political implementation policy will largely be undertaken by those political executive office-bearers or institutions constituting the superstructure of the executive institutions (e.g. Ministers, the Cabinet, the provincial executive councils and municipal councils) assisted by top officials.

(b) Role of the executive in implementing policy

When the policy of the government of the day and the political implementation policy have been made known, attention can be given to the formulation of the third policy, namely administrative executive policy. Administrative executive policy is concerned with the practical steps to give effect to the political implementation policy and it is usually left to the officials to formulate the administrative executive policy (Cloete, 1995:96).

(c) Operational policy

Apart from policy made at the different levels described above, decisions on various other matters of policy may still have to be taken at the level where the work has to be done, i.e. the operational level. Decisions at this level are usually taken by the supervisors and do not really affect the nature of the policy. This level of policy-making usually relates to routine work that can be performed by supervisors at the lower level of the hierarchy (Cloete, 1995:97).

(d) Provincial and local consultation

Provincial governments should dictate the boundaries of these sub-regional forums in as far as the impact of the municipal billing system on revenue collection is concerned. In consultation with these forums, local authorities will then promote the development of their areas. At provincial level, consultation councils should be established, consisting of representatives of both stakeholders and their sub-regional forums. Their function will be to ensure broad consultation, co-ordination, engagement and negotiation. To this end, the legislation has to provide the top policy directives and such directives should be the general guidelines (Presidency, 2005:9).

Hattingh (1998:55) states that to enable a policy to receive the highest authority to be duly implemented, an administrative policy must be laid down to serve as a guideline for the different spheres of government, thus ensuring that the overall policy be effectively and correctly applied. To this end, the policy statements found in legislation are normally the result of party political struggle and hence they are referred to as political policy. Steps have to be taken to implement these policies once political policy and government policy have been approved.

2.5.2 Organising

There must be an organisational structure that is organised to plan and implement, monitor and evaluate the municipal billing system and revenue collection; otherwise it would be a futile exercise for that system to be functional without a structure. Organising is a generic administrative function, which means that it is universal in application and as such omnipresent. The business of making organisational arrangements is an administrative function, which has probably received more attention than any of the other categories of generic administrative functions. The organisational arrangement for staffing purposes is extensive and should provide specifically for each of the numerous institutions and functionaries who will be involved, namely the legislators, the executive political office-bearers, the central personnel institutions, the chief officials or heads of departments, the supervisors serving under the chief officials, and the personnel officers attached to the executive institutions.

2.5.2.1 The establishment of the budget and treasury office

The budget office is of paramount importance to the planning and implementation of the municipal billing systems in order to ensure that revenue is exploited and collected maximally. The MFMA prescribes that the Chief Financial Officer heads the budget and treasury office and that competent finance officials must support the Chief Financial Officer in his or her role. The competencies of municipal officials assigned to the budget and treasury office must meet the minimum prescribed financial competency levels. The Act does not specify or propose a structure for the budget and treasury office as this is for the municipality to determine however, in so doing, the following minimum functions must be provided for: budget planning, monitoring and reporting, revenue management, expenditure management, supply chain management, payroll administration, risk management and sound governance arrangements are integral to municipal finance management (National Treasury, 2010:26-27).

According to the principle of organisational function, all the functions in a concern must be completely and clearly defined to the managers and sub-ordinates. This can be done by clearly defining the duties, responsibilities, authority and relationships of people towards each other. Clarifications in authority and responsibility relationships help in achieving co-ordination and thereby organisation can take place effectively. For example, the primary functions of municipal billing systems and revenue collection, namely customer care, finance and the authority and responsibility relationships in these departments should be clearly defined to every person attached to that department. Clarification in the authority-responsibility relationship helps in efficient organisation.

2.5.2.2 Characteristics of organisation

For the effectiveness of the municipal billing systems, which will impact positively on revenue collection, the organisational structure must be such that it co-ordinates effectively the financial function within a municipal financial administration. The characteristics of organising finds expression in co-ordination, centralisation, decentralisation, deconcentration, communication, span of control unity of command and for the purposes of this study these characteristics will be analysed.

(a) Co-ordination

Co-ordination is the act of organising, making different people or things work together for a goal or effect to fulfil desired goals in an organisation. Co-ordination is a managerial function in which different activities of the business are properly adjusted and interlinked (Sundarajan *et al.*, 2004:45-58). Co-ordination has to do with the establishment of rules which help guide individuals through the interaction of communication. The rules can further be broken down into two different categories for how communication and behaviour will be governed. The different rules can mesh allowing for successful communication and/or new rules can be created or improvised to allow for successful co-ordination.

(b) Communication

The essence of organisation is the coordination of individual efforts. Coordination of human activities requires communications. If an organisation is to activate its purpose, the individuals who constitute it must communicate with one another about what is to be done and whether it produces the desired results. In analysing communication differentiation should be made between formal and informal communications. Formal communication is that which is specified or even required by the rules of the organisation for examples rules, orders and reports. Informal communication is that which is not official and is not required by the organisation nor does it carry the authority of informal communications. Informal communication will primarily or entirely oral. Formal communications are frequently written but may be oral as well. In most organisations, for example, an oral order from a superior carries the same authority as a written one. Formal communications may be divided according to direction within the organisation namely downward, upward, or horizontal (Barton and Chappell, 1985:296-297). For the purposes of this study focus will be on the span of control and unity of command.

- (i) Span of control: administrative efficiency is supposed to be enhanced by limiting the number of subordinates who report directly to any one administrator to a small number of for example six (Rowat, 1961:62-63). According to this principle, *span of control* is a span of supervision which depicts the number of employees that can be handled and controlled effectively by a single manager. According to this principle, a manager should be able to handle the number of employees under him or her which is to be decided. This decision can be taken by choosing either from a wide or narrow span. There are two types of span of control namely wide span of control it is one in

which a manager can supervise and control effectively a large group of persons at one time. The features of this span are less overhead cost of supervision, prompt response from the employees, better communication, better supervision, better co-ordination and suitability for repetitive jobs. Span of control is the term used more commonly in business management, particularly human resource management. The second feature is that the span of control is affected by geographical location, capability of workers and similarity of task.

(ii) Unity of command: Administrative efficiency is supposed to be enhanced by arranging members of the organisation in a determined hierarchy of authority in order to preserve unity of command (Rowat, 1961:59-60). The principles of unity of command imply one subordinate-one superior relationship. Every subordinate is answerable and accountable to one boss at one time. This helps in avoiding communication gaps, and feedback and response are prompt. Unity of command also helps the in effective combination of resources, that namely physical and financial resources, which help in easy co-ordination and, therefore, effective organisation.

(c) Section responsible for financial management and administration

For the purpose of this study of the impact of municipal billing systems on revenue collection, it is of paramount importance to give a synopsis of the section which deals with financial management and administration in the municipality. Sections 80(1-2) and 81(1) of the *Municipal Financial Management Act (56/2003)*, prescribes the establishment of the municipal budget and treasury offices and the role of the Chief Financial Officer. It states that every municipality must have a budget and treasury office. A budget and treasury office consists of a Chief Financial Officer designated by the accounting officer of the municipality; officials of the municipality allocated by the accounting officer to the Chief Financial Officer; and any other persons contracted by the municipality for the work of the office.

The *Municipal Financial Management Act (56/2003)*, also stipulates that the Chief Financial Officer of a municipality is administratively in charge of the budget and treasury office, must advise the accounting officer on the exercise of powers and duties assigned to the accounting officer in terms of the MFMA; perform such budgeting, accounting, analysis, financial reporting, municipal billing system; revenue collection, cash management, debt management, supply chain management, financial management, review and other duties as may in terms of Section 79 be delegated by the accounting officer to the Chief Financial Officer.

In closing this section, the effective realisation of government objectives, whether political, economic or social, depends to a great degree on the organisational structuring of government as a broad body. In that score organisation, which is one of the generic administrative processes, also makes a crucial input into the state's definitive objective of promoting the general welfare of the public. The effectiveness of the organisational structuring of a municipality can play a pivotal role in terms of planning and implementation of municipal billing systems and revenue collection.

2.5.3 Financing

With regard to the research on the impact of the municipal billing system on revenue collection, the financing as an element of generic administrative functions will be discussed, focusing on sources of income, the budget planning process, budget allocation, and implementation and reporting.

(a) Sources of income

The legislatures consisting of representatives of the population decide about its income and expenditure for the performance of the functional activities such as defence, education, foreign affairs, maintenance of law and order entrusted to it. The imposition of taxes and the allocation of available money for various purposes are political functions which should be performed by every legislature from the municipal council of the smallest village right to Parliament. The control functions in financial affairs by legislatures are strengthened by the provision made for the appointment of an Auditor-General for South Africa in terms of Section 191 to 194 of *the Auditor-General Act (12/1993)* (Cloete, 1995:39). In local government, the sources of income are property rates, services charges (water, electricity, refuse removal, sanitation), interest received, transfers, borrowing and other charges such as fines and licences.

(b) Budget planning process

The municipal tax base in the context of the economic environment is critical in the municipal planning function in that revenue has to be exploited from a defined tax base. The number of residents in a community has to be known and should be put into municipal financial systems and municipal billing systems. Lack of planning for the tax base can influence the quality of data input into the municipal billing systems and alternatively impact negatively on revenue

to be collected. There is, therefore, a need to strategically and carefully plan for the data to be input into the municipal billing system. The municipal billing system or financial system is a fundamental priority to be planned for through the integrated development planning processes and community participation. Municipalities are responsible for municipal planning, which encompasses planning related to the spatial, economic and social development of the municipality. Planning is a powerful tool as it informs priorities, budgets, revenue collection and municipal billing systems and the actual delivery of services.

The main instrument of municipal planning is the five-year integrated development plan (IDP). The (MFMA) *Municipal Financial Management Act* (56/2003) states how finances should be handled in various municipalities and that the budget processes is done in terms of the IDP process of the municipality. Irrespective of any governmental objective and priorities accorded to a specific object, the availability or lack of funds is certainly one of the most vital criteria for implementation, at times even to the exclusion of national political contemplation. Each municipal council is required to approve a new IDP in the first year following an election, and then review it on an annual basis and this should include plans on the municipal billing system and revenue collection. These will assist to determine the impact which the billing system can have during the planning stage.

(c) Budget allocation

Financing by means of grants ensures that there are specific forms of governmental relations that are established when the higher authority supplements the income of lower authorities by means of subsidies and through fiscal decentralisation. Sufficient funds should be allocated for the planning and procurement of municipal billing systems.

(d) Budget implementation

The service delivery and budget implementation plan (SDBIP), sets out monthly or quarterly service delivery and financial targets aligned with the annual targets set in the IDP and budget. As the municipality's 'implementation plan', it lays the basis for the performance agreements of the municipal manager and senior management. This should include the mechanisms in terms of which the municipal billing systems are implemented in the municipality.

- (e) Budget reporting
 - (i) In-year reports: The administration reports to council on the implementation of the budget and SDBIP (Fourie, Opperman and Scott, 2011:185), through monthly, quarterly and mid-year reports. The council uses these reports to monitor both the financial and service delivery performance of the municipality's implementation actions. Annual financial statements are reports on the implementation of the budget and reflect the financial position of the municipality and they give council an opportunity to understand how the municipal billing system impacts on revenue collection and to formulate a policy to that effect (*White Paper on Local Government*, 1998:126).
 - (ii) Oversight reports: the council produces an oversight report based on outcomes highlighted in the annual report and actual performance (Fourie *et al.*, 2011:57,193, National Treasury, 2011a:85-87 and Rabin, 1992:387-392).

In closing and with reference to this study, the municipal billing system and revenue collection have to be properly planned and executed in terms of the intended objectives otherwise without proper finances such systems will be found wanting as their capacity to accommodate data for the tax base would fail. Failure would mean that the system will produce incorrect bills; the result will be that residents will complain about the state of the public system and this can lead to protests, which will change the public confidence by becoming negative in the field of local governance. It is apparent that there is limited oversight regarding the planning and implementation of the municipal billing systems to yield maximum revenue especially from the level of the department which deals with local government matters.

2.5.4 Municipal personnel administration

For the purposes of this research, the creation and maintenance of urban areas in which the people can enjoy material and social welfare require the rendering of numerous municipal services. The rendering of such services requires an efficient personnel force, which can be obtained only with effective and efficient personnel administration. The different functions constituting personnel administration also referred to as staffing are critical for considerations (Cloete, 1989:145). The efficient staff with the quality and caliber and right attitude will ensure that the municipal bills are correct and accurate and that the revenue is collected maximally.

(a) Legislation and municipal personnel administration in South Africa

Municipal personnel administration, like many other aspects of municipal government and administration, is also bound by the provisions of both Acts of Parliament (Cloete, 1989:147-148). Legislation is critical in the planning and implementation of the municipal billing system and revenue collection in that enforcement thereof is the first priority of the staff, e.g., *Municipal Systems Act (32/2000)*, Code of conduct, *Municipal Financial Management Act (56/2003)*, *Labour Relations Act (66/1995)* and *Basic Conditions of Employment Act (75/1997)*. Not all aspects of municipal personnel administration are dealt with in the Acts of Parliament. In terms of the framework provided by the legislation, municipal councils pass by-laws or regulations on personnel administration. For example, the municipal council may pass by-laws in terms of how municipal staff must conduct themselves in the implementation of municipal billing systems and revenue collection. Such a code of conduct can prevent staff from defrauding council and interfering with the municipal billing when collecting revenue.

(b) Staff establishment

The enforcement of Section 66 of the *Municipal Systems Act (32/2000)* is the first priority of the staff: the municipal manager must in terms of the policy framework as determined by the municipal council:

- (i) develop staff establishment for the municipality and submit to council for approval;
- (ii) provide a job description for each post on the staff establishment;
- (iii) attach to those posts the remuneration and other conditions of service as may be determined in terms of the applicable legislation; and
- (iv) establish a process or mechanism to regularly evaluate staff and review the staff establishment and remuneration and conditions of service.

The internal organisational arrangement for personnel administration plays a pivotal role in the structure dealing with municipal billing systems and revenue collection. Without properly constituted structures, it will be difficult to ensure that municipal bills are captured, transferred and interfaced from one structure to another (Cloete, 1989:152).

(c) Human resource development

A municipality must develop and adopt appropriate systems and procedures, consistent with uniform standards to ensure fair, efficient, effective and transparent personnel administration,

which include recruitment, selection and appointment of staff members, service conditions of staff, supervision and management of staff, monitoring, measuring and evaluating of performance of staff, promotion and demotion of staff, transfer of staff, grievance procedures, disciplinary procedures, investigation of allegation of misconduct and complaints against staff and dismissal and retrenchment of staff. The municipal manager must ensure that every staff member and every relevant representative trade union has easy access to a copy of these staff systems and procedures and that the purpose, contents and consequences of these staff systems and procedures are explained to staff members who cannot read.

(d) Capacity building

A municipality must develop human resource capacity to a level that enables it to perform its functions and exercise its powers in an economical, effective, efficient and accountable way. The capacity building must comply with the *Skills Development Act (81/1998)* and the *Skills Development levies Act (28/1999)*. In addition to the skills development levies which can be used for the development of staff, a municipality must make provision in its budget for the development and implementation of training programmes. Personnel utilisation is an important function of the administrative process, particularly regarding the upholding of relations between governmental bodies. A shortage of sufficient and adequately trained personnel is an unfortunate attribute of governmental bodies at practically all levels of authority (Hattingh, 1998:67). This state of affairs can affect the efficient and effective planning and implementation of municipal billing systems and thus impact negatively on revenue collection.

(e) Code of conduct

The code of conduct contained in Schedule 2 of the *Municipal Systems Act (32/2000)* as amended applies to every staff member of a municipality and the municipality must provide a copy of the code of conduct to every staff member of the municipality. The municipal manager must ensure that the purpose, contents and consequences of the code of conduct are explained to staff members who cannot read and communicate sections of the code of conduct that affect the public to the local community and municipal billing systems and revenue collection.

(f). Type of staff to be utilised in the finance section

For the purposes of the research on the impact of the municipal billing system on revenue collections, the staff to be appointed under the Finance Department can be categorised as managers, professionals, administrators, assistant administrators and officers (Department of Cooperative Governance and Traditional Affairs, March 2012). The various categories are analysed namely: Chief Financial Officer, budget and treasury manager, creditors control manager, expenditure manager, revenue manager, debt collection accountant, expenditure accountant, financial control accountant, property valuation accountant, revenue accountant, acquisitions officer, budget officer, buyer, expenditure officer, payroll officer, creditors administrator, debtors administrator, fixed asset administrator, insurance administrator, rates and taxes junior accountant, reconciliation administrator, register administrator, revenue junior accountant, budget and treasury assistant administrator, cashier, credit control assistant administrator, debtors assistant administrator, expenditure assistant administrator, payroll assistant administrator, rates and taxes assistant accountant and toll gate cashier.

In concluding this section, when the provision of personnel to perform the staffing and billing functions is under consideration, the requirements of the particular field of work should be the significant factor, e.g., specialisation needs guidance to specialise on certain fields of work, qualifications guidance in specialisation and trained officials to be provided to perform staffing functions.

2.5.5 Procedure

For the purposes of this research, municipal billing system procedures are critical to ensure that revenue is collected maximally. A *policy* is a predetermined course of action which is established to provide a guide towards accepted business strategies and objectives. In other words, it is a direct link between an organisation's *vision* and their day-to-day operations. Policies identify the key activities and provide a general strategy to decision-makers on how to handle issues as they arise. Policies can be likened to a globe where national boundaries, oceans, mountain ranges and other major features are easily identified (Nakamura, 1987:142-154).

The ultimate goal of every procedure is to provide the stakeholders and users with a clear and easily understood plan of action required to carry out or implement a policy. A well-written procedure will also help eliminate common misunderstandings by identifying responsibilities

and establishing boundaries for the users. Good procedures actually allow managers to control events in advance and prevent the organisation and employees from making costly mistakes. A procedure is a road map where the trip details are highlighted in order to prevent a person from getting lost or ‘wandering’ off from an acceptable path identified by the company's management team (AMEinfo, 2005:1).

Procedures normally identify specific actions, explain when to take action, describe alternatives, show emergency procedures, include warning and cautions, give examples, show how to complete forms and are normally written using an outline format. Policies and procedures also provide clarity to the reader when dealing with accountability issues or activities that are of critical importance to the municipalities such as legal liabilities, regulatory requirements or issues that have serious consequences (AMEinfo). Lack and inadequateness of procedures can affect the implementation of the municipal billing systems, which can affect the efficient collection of revenue from consumers.

Municipalities have to develop procedures to enhance municipal billing systems positively in its impact on revenue collection. Municipal billing and collection systems hence are critical for ensuring financial sustainability and for achieving cost recovery, especially if a municipality is looking to expand services and improve the equity of service provision. The impact of poor billing and collection is reflected through long collection period procedures; the selected municipalities report collection periods of more than three months and, even longer. Poor billing and collection practices primarily emanate from a lack of political will to enforce for the recovery of the costs incurred in supplying the service.

In concluding this section on procedures regarding the municipal billing system and revenue collection, it must be emphasised that effective billing and collection procedure is necessary for municipalities as well as the need to show performance improvements. The aim thereof is to assist municipalities to understand and develop procedures which can promote cost recovery and sustainable revenue strategies. The objective is to focus not only on specific performance improvement procedural areas by advancing technical, commercial and operational efficiency such as leak reduction, billing and collection, customer service and tariff setting, but also to ensure that such improvements remain sustainable and viable in the long term through arrangements such as performance agreements, monitoring and evaluation.

2.5.6 Control

For the purposes of this research, the municipal billing systems and revenue collection are the most important components in municipal government and administration and they need control mechanisms so that they are kept on check. To this end, there is a need for financial records which are kept in order to achieve a set of objectives that is to improve the public confidence and organisational systems using billing system tools to impact positively on revenue collection. In this section, the significant aspects of the control that can have an effect of the municipal billing systems and revenue collection systems will be discussed. Several role players are critical in the field of municipal billing systems and revenue collection. These role players can add value to the positive impact the municipal billing systems can have on revenue collection in the selected South African cities in terms of planning and reshaping of the billing system imperatives.

2.5.6.1 Role Players

The role players in the municipal billing system and revenue collection environment are, among others: externally, the Auditor-General, National Treasury, ratepayers, provincial government, national government, sector departments which have an impact on revenue generation, and internally, municipal officials namely the budget and treasury officers, the Chief Financial Officer, internal audit function, audit committee, MMC for finance, council, mayor, executive committee and all municipal departments. The above role players in the municipal billing system can have a negative or positive impact on revenue collection through the actions of planning, implementation and oversight of the operations of the municipal billing system and revenue collection. There is a need for focus reporting by internal auditors as well as the Auditor-General regarding the performance of the municipal billing system and its impact on revenue collection.

(a) Ratepayers

The community has a stake because of their contribution in paying for the services rendered to them by the municipalities. To this end, ratepayers have to be listened to and be treated like kings. The ratepayers' bills must be captured accurately and sent in time in order that they also pay those bills on time and the services which are rendered must be reliable in order to engender satisfaction to the ratepayers in the long run.

(b) Internal audit auditors

The mission of the internal audit function is to provide independent objective assurance and consulting services and its entities designed to add value and improve the organisational operations. It helps the organisation to accomplish its objectives with a systematic disciplined approach in order to evaluate and improve the effectiveness by ensuring a systematic internal audit of risk management, control and governance processes (Ekurhuleni metropolitan municipality, 2010:164 and Fourie *et al.*, 2011:102).

(c) Audit Committees

Planning, implementation and performance of the municipal billing system in terms of an application tool to collect revenue can be enhanced with the work which the audit committee in a municipality can do. An audit committee is an independent advisory body appointed by a council and tasked with specific responsibilities as set out in an audit committee charter approved by a council. Audit committees are needed for governance requirements. Any organisation is defined by its purpose and for a municipality, it is most likely to be the provision of the highest level of services to the community it serves in a sustainable way and at the most economical rate.

In terms of the *Constitution* the objects of local government are set out in Section 152 of the *Constitution*, of which are to provide democratic, accountable government and ensure the provision of services to communities in a sustainable way. In this regard, *governance* represents the means by which direction and control are applied to stewardship of an organisation's assets namely tangible and intangible, financial and non-financial in the pursuit and delivery of the primary objective of sustainable value creation (Fourie *et al.*, 2011:99-100). The legal requirements in regarding municipal financial management are provided in the *Municipal Finance Management Act* (56/2003) and Section 166 defines the establishment, duties, requirements and composition of audit committees.

(d) The Auditor-General

An audit is a check on how money is spent; the *postaudit* is such a check which takes place after expenditure (Barton and Chappell, 1985:141). The Auditor-General performs control functions in the system of local government and there are processes in the appointment of the Auditor-general. The Auditor-General conducts his or her work in terms of the *Public Audit*

Act (25/2004). The appointment of the Auditor-General is done by the President. Whenever it becomes necessary to appoint a person as Auditor-General, the Speaker must initiate the process in the National Assembly for the recommendation of a person to the President for appointment as Auditor-General as set out in Section 193 of the *Constitution*. In making the appointment, the President must determine the term for which the appointment is made, subject to Section 189 of the *Constitution*.

(e) Political office-bearers

The legislators and the executive political office-bearers will always have a direct interest in public personnel administration, because public officials in every state constitute a significant body of voters and because their activities determine the quality of the country's administration for which the politicians in power can be called to account. It is critical that specific steps are taken by the legislative institutions to ensure that they remain in control of personnel administration.

This research has identified some of the measures by means of which control can be exercised by the legislature namely the value norms and procedures; allocation of staffing functions to office-bearers, submission of annual reports to the legislatures because it is the primary instrument of accountability, in which the mayor and municipal manager report on implementation performance in relation to the budget and the Service Delivery and Budget Implementation Plan (SDBIP); progress with realized Integrated Development Plan (IDP) priorities, making public service regulations, creating specific institutions to perform specified personnel functions; appointment of committees, and of specific functionaries on instruction and reports on the conduct of departmental personnel administration (Cloete, 1998:58).

Ward councillors play a pivotal role in the communication process between the communities they represent and the council, reporting back regularly through ward meetings and assisting the community in identifying needs and priority areas of development, which are fed into the municipality's planning processes. Councillors also serve on the development tribunal where political oversight is ensured over the physical development of the metropolitan area. Portfolio committee meetings and mayoral committee meetings are held, where issues of service delivery are discussed and dealt with in accordance with the system of delegations adopted by council. The full council meets on a monthly basis and the meetings are open to

the public. The frequency of meetings as well as the delegations may be affected by the separation of powers principle.

(f) National Treasury

The National Treasury has a role to play in terms of guiding financial management processes in municipalities especially insofar as the impact of the municipal billing systems on revenue collection is concerned. Without proper guidance, municipalities can have a myriad of queries with regard to inaccurate billing and outstanding debts. National Treasury (2011:74-76) identifies key mechanisms for strengthening the accountability and alignment of planning, budgeting and reporting in local government.

(g) Municipal public accounts committees

The *Constitution* and other relevant pieces of legislation provide a clear and definite framework for legislative oversight of executive authority actions in the national and provincial spheres in South Africa. Municipal public accounts committees are oversight committees which can assist municipalities in their oversight role. Control can be applied as a political function in that control is not a small matter on the periphery of budgeting and thus suitably left to subordinates or financial managers. According to the Department of Cooperative Governance and Traditional Affairs (2011), various municipalities have established municipal public accounts committees to oversee the financial management in municipalities, a move which, if properly implemented, will yield good results especially with regard to the inaccurate municipal billing systems which have an impact on revenue collection in selected municipalities in South Africa.

These developments turn the attention to the annual assessments of and reporting on the adequacy of internal controls and accounting systems. For the purposes of this section, reliable financial records are essential for the enforcement of public accountability. Council oversight can be done through good governance practice by adopting IDPs, budgeting using in-year reports and annual financial statements by audit committees and authoritative audit committees, annual reporting by council adopting or rejecting annual reports (Botes, 2011:56). The external and internal role players will play a critical role in terms of enhancing control systems especially with regard to the impact of municipal billing systems on revenue collection in selected South African cities.

In conclusion, this section highlighted issues such as policy-making, organising, financing, personnel administration, procedures and control, which are crucial for the planning and implementation of the municipal billing systems and revenue collection. It is critical to mention that both the formal and informal as well as other stakeholders and structures of government affect municipal accounting and financial reporting activities and needs. If the municipal billing system cannot produce accurate billing or invoices, the public confidence regarding the municipal billing systems would diminish. The payment of taxes will also decline and as such, the municipal billing system will impact revenue collection negatively. As a result the ruling party in the municipality might lose some votes in the next election.

2.6 ROLE AND PURPOSE OF THE STATE

The previous section dealt with the municipal billing system and revenue collection in terms of how the municipal government and administration are structured in local governance regarding the policy-making, organising, financing provision and utilisation of personnel, procedures, control and oversight. This section of the research will cover pertinent issues relating to the role of the state in regulation and promotion as well as the state having an enabling function to perform within its jurisdiction. In this research, the government functions in the mixed economy relate to the allocation, distribution and stabilisation function into which the regulation, promotion and enabling functions fall.

The state has a specific role to play in making laws, keeping law and order and the regulation of the economic activity and welfare services. The role and purpose of the state focus on the regulatory, promotion and enabling functions. In the light hereof, two primary activities of government are at the foundation of this statement, namely the regulation of individual actions to ensure that they will not be detrimental to the general public and the provision of public facilities and services for the mutual benefit of all citizens. The section that follows highlight government activity as it relates to regulatory, promotion and enabling function which is increasingly important in the modern world.

2.6.1 Regulation function

Regulations play an important role to ensure enforcement and that taxpayers who owe municipalities are brought to book and the debt outstanding is recovered without delays. It is

essential to ensure a level playing field and to ensure that exploitation by businesses, government, special interests and individuals is avoided as far as possible because an essential function of government is to provide protection to all citizens against such exploitation. Among the most important areas in this regard is labour, because inevitably, employees are under the control of their employers, and this can lead to exploitation and for this reason, governments regulate working conditions.

Regulation is a macroeconomic function that requires a framework of economic laws and regulations governing budgetary processes, central bank operations, international trade, domestic commerce and economic governance institutions (Youkins, 2000:1). According to Gildenhuys (2004:345), economic welfare functions are aimed at the development of the economic material welfare and prosperity of the individual. What the scope and nature of the functions will be depends on the policy and prevailing ideological vision of the government in power. The economy must be regulated to secure economic market stability which can be created by the following measures:

- (i) by stabilising stable balance of payments by way of direct or indirect import and export control measures;
- (ii) monetary control consisting of regulating and controlling interest rates and exchange rates, as well as by regulating and controlling foreign loans and inflow and outflow of money to and countries abroad; and
- (iii) fiscal policy measures such as raising taxes, *inter alia*, to secure a larger measure of redistribution and a better diffusion of wealth, the reduction or expansion of government spending to counteract and temper cyclical fluctuations in the economy, and regulating income and expenditure of regional and local government.

The regulation of domestic commerce takes many forms: intoxicating liquors, tobacco, explosives, drugs and other commodities are subject to a system of licensing, or special taxation, or other kinds of legal supervision; railroads are forbidden to exact more than certain maximum charges for carrying goods and passengers, and are compelled to maintain certain standards of service; and such municipal utilities as street railways and lighting concerns must meet similar requirements. All the foregoing regulations promote the public. Regulations or laws are necessary to ensure that the country, markets and the economy operate in an orderly manner and those stakeholders or investors are protected against fraudulent activities of unscrupulous operators. It is also needed to maintain a sound and stable financial system (Els, 2001:8).

A policy framework for municipal borrowing is critical, because municipalities have sufficient powers, resources and capacity to carry out their extensive responsibilities with regard to the aspects of development and management of services for which they are accountable. Municipalities are becoming aware that private finance will need to form an important source of funding for capital investment in the municipal sector. This state of affairs requires the introduction of a legal and regulatory framework that clarifies the rights and obligations of borrowers and creditors (Dirie, 2005:266).

Effective fiscal management requires building a transparent and accountable system, the municipal billing systems in particular for collecting revenue, spending public funds and managing domestic debt. An authority is needed to implement policy and manage operations, all of which will be a challenge when there is very limited administrative capacity. The primary means of collecting revenue is getting the tax system up and running by securing the necessary infrastructure, technical assistance and monitoring or oversight mechanisms and the other means of generating revenue quickly is through the transparent and accountable management of natural resource wealth.

2.6.2 Promotion function

Regarding the impact of the municipal billing system on revenue collection, the promotion of economic growth and development is critical to promote the economic activities of a particular local area. The objectives of the government are the promotion of economic growth and development by increasing the industrial strength of the society, ensuring the society's unity and stability and the government's legitimacy, enhancing the political support enjoyed by the incumbent officeholders in the government and provided by individuals and groups benefiting from the high employment levels and widespread economic prosperity and securing a broad tax base that will enable the government to fund its activities and programmes. Gildenhuis (2004:346) maintains that the promotion of economic growth can be achieved through stimulating economic development in order to create general welfare and prosperity for each individual to share in, according to his or her own contribution. Economic development may be stimulated by the following measures:

- (i) economic development planning;
- (ii) lending a helping hand to new entrepreneurs;
- (iii) promoting exports;
- (iv) protecting domestic industries; and

- (v) Creating work opportunities.

In concluding the section, high levels of employment coupled with low inflation and widespread economic prosperity, sustained over a long period of time, result in large amounts of income being earned by the citizens' income, which is subject to taxation. This brings large amounts of revenue into the public treasury on a regular and continuing basis, thus enabling the government and municipalities to finance service delivery projects and infrastructure.

2.6.3 Enabling function

The enabling function can be achieved through securing a broad tax base that will enable municipalities to fund its activities and programmes. The effective revenue administration contributes to a country more than simply filling its national coffers by being considered as an essential component of good governance and revenue collection. Therefore, it is an important enabler of development.

Revenue collection enables states to create the fiscal space in order to pursue their national development agendas, thereby both stabilizing their sovereignty as well as serving the needs of their people. The idea of revenue collection as an important element of development is not a new phenomenon because Aristotle and Confucius both noted that a prosperous and politically stable society requires a political leadership and administration funded through fair and effective tax systems. There is increasing concern that grants may act as a resource curse, undermining the accountability mechanism between the state and its taxpaying citizens over the raising and use of public finances (Phillips, 2010).

The state's capacity to raise revenue is closely linked to its ability to deliver sound policies and there is much to suggest that the raising of tax is a good proxy indicator of overall governance capability. Economic growth and the resulting higher tax revenues, in turn, pay for more capable public administration and better public goods. The fiscal social contract is a key factor in delivering both political legitimacy and sustainable economic growth; a stable, transparent, even-handed tax system is perceived by investors as a sign of established *rule of law*.

A coherent approach to the importance of tax for development requires an understanding of tax as a state-building *system*, one that delivers revenues not only to fund public services and promote economic growth, but also explicitly to generate a stronger political culture around

the fiscal social contract. Thindwa (in Brinkerhoff, 2004:3) defines *state-enabling environment* as a set of interrelated conditions such as legal, bureaucratic, fiscal, informational, political and social that impacts on the capacity of the development actors to engage in the development process in a sustainable and effective manner. For the purposes of this research, the focus will be on economic factors.

The state has a critical role to play in creating the right conditions for a successful local government finance system (Dirie, 2005:265). Local government can provide an environment to promote the marketability of municipalities 'debt' in the following manner, namely: appropriate macroeconomic and regulatory policies especially those which are conducive to the accumulation of resources to invest through long-term savings pools in order to help communities have access to borrowing and the removal of the bottlenecks to private banks lending to local government units and levelling the playing field with government finance institutions. Central government can also contribute to resolving the fundamental challenge of developing comprehensive financing programmes, which will allow local government to meet infrastructure needs without putting unnecessary pressure on taxpayers through public subsidies.

Local government can create an enabling environment through the following imperatives:

- (i) city development strategies;
- (ii) capital improvement plans;
- (iii) improvements in financial management and accounting;
- (iv) the development of a comprehensive public information system on local government finances and local government;
- (v) effective procurement procedures;
- (vi) increasing own-sources of revenue by improving billing and collections, improving operating efficiency; and
- (vii) sustainable partnerships with the private sector, NGOs and organisations of the urban poor.

The enabling function is important in that government and municipalities are able to level the playing field in terms of improving the quality of municipal billing systems to impact positively on revenue collection so that the actors in the economy are able to assist in the generation of economic growth and in achieving payment by the local people for the services rendered to them by the municipalities. Every resident in the locality will try to do something

in order to earn a living and as such indigents will somehow be eliminated. To that end, revenue will grow because everyone will be paying for the services rendered.

2.6.4 Role of municipal administration

In the context of the municipal billing system and revenue collection, local government is a form of public administration, which in a majority of contexts, exists as the lowest sphere of administration in a given state. The term is used to contrast with offices at state level, which are referred to as the central government and national government. Local governments generally act in terms of powers delegated to them by legislation or directives of the higher level of government. The question of municipal autonomy is a key question of public administration and governance. The institutions of local government vary greatly between countries, and even where similar arrangements exist, the terminology often varies. The common names for local government entities include state, district, city, township, town, municipality and village within which the municipal administration resides. For the purposes of this research, the provision of public facilities and services is widely accepted as a basic responsibility of municipal governments in contemporary society.

The municipal council, as elected by the voters, consists of the governing body of the municipality, and as elected officials they must exercise duties and powers as legislated. The council's role can be broken down to the following categories:

2.6.4.1 Representation and accountability

The municipal councillors must stay in touch with local citizens, businesses and community groups so that they can keep up-to-date on local issues and concerns of the community. According to Steiss (1975:3-5), it became evident that a more systematic approach was necessary to avoid the hit-and-miss result that characterised many early efforts and some fundamental assumptions regarding planning for municipal services and infrastructure development. The *White Paper on Local Government* (1998:45-64) provides the characteristics of developmental local government and the following are among others issues pertinent to that:

(a) Governance

The municipal council determines the direction for the municipality by setting the course and allocating the necessary resources. The council establishes the policies and the municipal staff ensure that those policies are implemented.

(b) Management

The day-to-day management of the municipality is done by staff under the direction of the chief administrative officer and department heads. The council members have broad and general management responsibilities, such as making sure staff is clear on the council's direction, and identifying gaps in service delivery. The *White Paper on Local Government* (1998) provides the developmental local government context which has four interrelated characteristics. These are critical for the municipal administration and government and its role in the system of local governance.

(c) Maximising social development and economic growth

The powers and functions of local government must be exercised in such a way to have a maximum impact on the social development of communities by meeting the basic needs of the poor and on the growth of the local economy. Through its traditional responsibilities service delivery and regulation, the local government exerts a great influence on the social and economic well-being of local communities.

Local government is not directly responsible for creating jobs; rather, it is responsible for taking active steps to ensure that the overall economic and social conditions of the locality are conducive to the creation of employment opportunities. Provision of basic household infrastructure is the central contribution made by local government to social and economic development. Local government can also promote social development through functions such as arts and culture, the provision of recreational and community facilities, and the delivery of aspects of social welfare services.

(d) Integrating and co-ordinating

In any local area, many different agencies contribute to development, such as national and provincial departments, parastatals, trade unions, community groups and private sector

institutions. Municipalities should actively develop ways to leverage resources and investment from both the public and private sectors to meet development targets.

2.6.4.2 Democratising development, empowering and redistributing

Municipal councils play a central role in promoting local democracy. In addition to representing community interests in the council, municipal councillors should promote the involvement of citizens and community groups in the design and delivery of municipal programmes. While regulation remains an important municipal function, it must be supplemented with leadership, encouragement, practical support and resources for community action through the following:

- (i) Linkage policies aim to directly link profitable growth or investment with redistribution and community development; and
- (ii) Socio-economic development and community empowerment are mainly directed at poverty eradication.

Local government has a key role to play in building social capital to find local solutions for increased sustainability and municipalities can build social conditions favourable to development through:

- (i) responsive problem-solving and a commitment to working in open partnerships with business, trade unions and community-based organisations;
- (ii) ensuring that knowledge and information are acquired and managed in a way that promotes continuous learning, and which anyone can access easily and quickly; and
- (iii) building an awareness of environmental issues and how the behaviour of residents impacts on the local environment, and encouraging citizens to utilise scarce natural resources in a prudent, careful manner.

Local government is responsible for the provision of household infrastructure and services, an essential component of social and economic development, such as water, sanitation, local roads, storm-water drainage, refuse collection and electricity. Urban municipalities should promote mixed-use and mixed-income development and should plan and invest to meet current and future land use and infrastructural needs for residential, commercial and industrial development. The creation of sustainable and quality living environments for communities in informal settlements requires innovative strategies and programmes. Environmental

sustainability is a key challenge in both urban and rural settlements. Municipalities can enhance environmental sustainability by including environmental issues in their planning processes.

Local government can play an important role in promoting job creation and boosting the local economy. Investing in the basics by providing good quality cost-effective services and by making the local area a pleasant place in which to live and work is critical. Municipal administration must ensure that economic activities, the work of sector departments that help to generate economic growth are properly coordinated so that jobs are created. Once jobs are created, the economy could blossom and citizens will be able to be economically active. These taxpayers in local municipalities will be able to pay their services.

2.7 ENVIRONMENT OF PUBLIC ADMINISTRATION

It is very much important in the study and practice of Public Administration to recognise that municipalities are not islands into themselves. The organisations influence the environment and also influenced by it. Municipalities are created to make impact on the world around them (Barton and Chappell, 1985:8). Municipal billing systems can also be affected by various environmental factors, which can lead to the impact of revenue collection in municipalities. These environmental factors relate to the economic, social, political, technological, demographic and international environments, affecting the municipality and its operations. According to Schwela (in Van der Walt and Du Toit, 1999: 100), the macro or general environment level has political, economic, legal, social, cultural and technological components. These components depend on each other. The environment of public administration includes influences outside the boundaries of the institution. These are all factors external to the institution's micro and intermediate environment which influence the functioning of both these environments.

It is important that municipal managers and various councillors ensure that planning and implementation of the municipal billing systems and revenue collection are centered on those components. The various statutes give local government the competence to render a number of services and to perform a number of acts. This being the case, local government is not simply a legal phenomenon, but it operates also in political, social, economic, administrative and service-rendering dimensions or aspects (Craythorne, 1990:12-14).

2.7.1 Political Environment

Political environment is the medium for translating economic, social and technological problems into specific demands for administrative response and the existence of municipalities depends directly on political interaction (Barton and Chappell, 1985:10-20). The municipal leadership plays a pivotal role in strategic direction and oversight interface as they relate to the municipal billing system and revenue collection. The council through the executive committee must consult regularly with the management of the municipalities or administration to hear reports regarding municipal billing system and revenue collection. Officials are in a better position to assess the practical implications of political decisions.

The member of municipal council (MMC) for finance in a municipality has to be briefed regularly about the correctness of the municipal bills which are issued to ratepayers, giving him or her picture of the municipal billing system and its impact on revenue collection and the plans towards the solving of problems if any. The council will be in a position, upon receipt of reports from administration and the MMC for finance, to ensure that credit and debt control policies, by-laws and other regulations are established and implemented to ensure the effective implementation of municipal billing systems and revenue collection.

The *troika*, namely, the chief whip of a party in a municipality, the speaker of the council and the mayor, if properly structured can enhance good governance in a municipality by communicating and working together with business, church leaders, ward committees and traditional leadership to have a positive impact on the municipal billing systems on revenue collection. The interconnection between all the above stakeholders, if carefully co-ordinated, can have a positive impact on revenue collection in that the stakeholders can agree on a better way in which revenue can be collected, and thereby improve the municipal billing system. According to Van der Walt and Du Toit (1999:104), the political component of the macroenvironment affects almost every facet of the municipal manager's activities, since these are influenced, directly or indirectly, by factors such as the system of government, the *Constitution*, the Bill of Rights, and the nature, promulgation and implementation of laws. The political component therefore consists of the regulations with which the authorities of a state regulate the structures and processes within a state.

According to McGowan and Steven (1985:31-33), every public organisation requires resources to achieve its objectives and survive in an environment composed of benign, hostile, co-operative, or competitive forces. The environment is also representative of the

major influences that affect municipal organisations. The political ideology of the state determines the level of state expenditure and a population increase does influence government expenditure, as public institutions would have to increase their level of activities. This could mean the employment of more personnel. A municipal official therefore should not ignore the political environment as his or her work is influenced by the political environment.

2.7.2 Social Environment

The increase in population creates a need for the planning of a quality municipal billing system to improve revenue collection. This new municipal billing system must have a capacity to accommodate new data. Since 2001 the population of the City of Johannesburg Metropolitan Municipality has increased by 18.8%, that of Ekurhuleni Metropolitan Municipality by 14.1% and that of the Nelson Mandela Bay Metropolitan Municipality by 6.2% (Community Survey 2007, Stats SA). The municipal managers in the areas cited above must as accounting officers effectively plan for quality municipal billing systems which can accommodate such increases in population. If the municipal billing system is not properly planned important data will not be accommodated in the system and will be lost. This will have a negative impact on revenue collection. The municipal billing system should be in a position to manage such data to avoid negative impact.

Social environment and cultural values are difficult to measure, but their effects are usually undeniable. The social environment involves the nature, quantity and distribution of human resources. It relates to the class structure and mobility, social roles, the nature of social organisation and the development of social institutions (McGowan and Steven, 1985:34). According to Maier and Verser (1982:535-536), the organisation's relationship to the external stakeholders in which it is located is critical.

The norms and standards of public administration form part of the cultural and historical background of society. According to Rose and Lawton (1999:27), people are vital to all organisations because they provide the organisation's workforce and management and are the customers who consume its inputs. The National Treasury (2011a:10) indicates that the prevailing trends of rapid urbanisation and a reduction in the average size of households are reshaping the contexts for service delivery and governance in most municipalities. This state of affairs reduces the number of persons reached by each household service connection and at the same time adding backlogs and service delivery burden in the urban centres. The current distribution of the population and the economy has some policy implications, including

namely the need for a more sustainable approach to economic and settlement planning at multijurisdictional regional level and the need for a differentiated governmental approach to settlement support.

2.7.3 Economic environment

Municipalities are influenced by environmental factors. The economic environment, for example, affects the kinds of activities municipalities perform and the resources devoted to these tasks (Barton and Chappell, 1985:8). Those economic factors which affect the working of the business are known as the economic environment. It includes the system, policies and nature of an economy, trade cycles, economic resources, level of income, distribution of income and wealth. The economic environment is very dynamic and complex in nature. It does not remain the same and it keeps on changing with changes in the economy such as change in government policies and political situations. The economic environment has five main components, namely: economic conditions, economic system, economic policies, international economic environment and economic legislations.

The following elements are part of the economic conditions of a country: of the business cycle, national income, per capita income and distribution of income, rate of capital formation, demand and supply trends, inflation rate in the economy, industrial growth rate, exports growth rate, interest rate prevailing in the economy, trends in industrial sickness, efficiency of public and private sectors, growth of primary and secondary capital markets and size of market. An *economic system* of a nation or a country may be defined as a framework of rules, goals and incentives that controls economic relations among people in a society. It also helps in providing framework for answering the basic economic questions. Different countries of the world have different economic systems and the prevailing economic system in a country affects the business units to a large extent. The economic conditions of a nation can be of any one of the following types: capitalism, socialism, democratic socialism, totalitarian socialism and mixed economy (Samuelson and Nordhaus, 2004).

The government frames economic policies which affect the different municipalities in different ways. All municipalities may frame their policies keeping in view the prevailing economic policies. The important economic policies of a country are as follows: monetary, fiscal and foreign trade, foreign investment and industrial policies. Municipal officials have to take the international economic environment and economic legislation into account.

The economic environment in a particular municipal area will have an impact on the municipal billing system data and revenue collection. Municipal billing system data and revenue collection relate to local economic development activities and the profile of the communities residing in the municipality. The communities as ratepayers determine the municipal tax base. If the municipality is economically viable, then the tax base will be huge as residents will have jobs. Those with economic jobs will be able to pay for services rendered by the municipality and debts will not accumulate as every body's economic profile will be rich.

According to McGowan and Steven (1985:32), every municipal manager is aware that economic factors influence his or her organisation, but this awareness does not always translate into appropriate action, such as the collection of information. The role of the municipality in the economic system of the country differs markedly from the role of the private sector. According to Stats SA (Community survey, 2007), a key focus of developmental local government is the provision of basic municipal services such as schools, hospitals and churches to local communities and industries, other spheres of government, private firms and public facilities. Table 2-1, shows the number of households in the six metropolitan municipalities has increased by 593 000 or 14.4% between the Census 2001 data and the results of the Community Survey 2007 (Stats SA, 2007). The growth is primarily brought by inward population migration, decreasing household size and faster household formation.

Table 2-1: Number of households per metropolitan municipality

No. households per metro			
Metro	Census 2001	Community survey 2007	Percentage Growth
City of Cape town	759 485	902 278	18.8%
City of Johannesburg	1 006 742	1 164 014	15.6%
City of Tshwane	561 772	686 640	22.2%
Ekurhuleni Metro	744 479	849 349	14.1%
EThekweni Metro	786 746	833 859	6.0%
Nelson Mandela Bay Metro	260 799	276 881	6.2%
Total	4 120 023	4 713 021	14.4%

Source: Stats SA Community Census 2007.

In concluding this section, it must be stated that the growth in the number of households means that metropolitan municipalities have to plan properly for municipal billing systems which need to be implemented by these municipalities.

2.7.4 Technological environment

Technological environment clearly influences public administration. Municipalities are assigned responsibilities because traditional assignments and systems came to be regarded as inadequate (Barton and Chappell, 1985:9). *Technology* is the making, modification, usage and knowledge of tools, machines, techniques, crafts, systems methods of organisation, in order to solve a problem, improve a pre-existing solution to a problem, achieve a goal or perform a specific function. It can also refer to the collection of such tools, machinery, modifications, arrangements and procedures. Technologies significantly affect human as well as other animal species' ability to control and adapt to their natural environments.

The municipal manager and his Section 57 managers have to recognise that the technological environment has an effect on municipal administration. The municipal billing system as a system which is used for revenue collection is an application which can change from time to time depending on what the market nationally and globally offers. To this end, the municipal officials should position themselves to move with time and ensure that they plan for the municipal billing infrastructure which can impact positively on revenue collection.

The *technological environment* refers to the state of science and technology in a certain environment as it relates to changes in technology. Changes in technology, of which the best known is probably the introduction of computers, are created by technological progress and innovation (Farazmand and Pinkowski, 2007:192). One of the paramount challenges faced by the municipal manager is the application of technological aids. McGowan and Steven (1985:33) state that every public organisation uses information to make decisions, achieve its objectives and control its operations, but not with the same degree of efficiency or effectiveness.

2.7.5 Legal environment

For the purposes of this study, it must be indicated that municipalities use money they collect from services to develop more infrastructure. To this end, the ratepayers need to pay for those services in order to multiply development. In the event that ratepayers do not pay for the services, there should be a legal remedy to that effect. Municipalities must ensure that the law takes its course and as such by-laws and credit and debt management policies should assist as enforcement mechanisms to compel taxpayers to pay for services rendered. Hence there is a need for enforcement through credit and debt policies and by-laws.

McGowan and Stevens (1985) state that the legal influences on public organizations may be very specific or general. All municipalities are charged with implementing a variety of statutes; however, there may be conflicts in the way authority is delegated to achieve at times competitive objectives. The Acts which have a particular influence on the work situation of the municipal manager in local government were discussed in Chapter 1 under the legislative mandate of local government.

2.7.6 International environment

International organisations do provide guidance with regard to municipal finance, for example, the Certified Institute of Public Administrators (CIPA), International Federation of Accounting, the International Organization of Supreme Audits Institute. Municipal managers have to ensure that there are benchmarks and best practices regarding municipal billing systems and revenue collection. To this end, the use of best practices will enhance the planning and implementation of municipal billing systems and this will yield a positive impact on revenue collection. The technology applicable globally will be used in

municipalities as best practices and the international environment will therefore have a bearing on municipal administration in so-far-as benchmarking and best practices are concerned.

According to Shapiro (1999:49-50), economic activities globally are unified today to an unprecedented degree. According to the National Planning Commission (2011), South Africa's policy-makers did not adequately account for the effects that the world economy would have on the domestic environment, which are critical for the municipal manager and any government official.

The environment of public administration should guide how municipal government administration can be conducted and developed by ensuring that fundamental issues such as the political environment, social, economic, legal, technological and international environments are appreciated by municipal officials and that when they plan and implement the municipal billing system and revenue collection officials should filter those factors into the planning.

2.8 CONCLUSION

Public administration encompasses the set of relationship between a government and its citizens. Public administration is the mundane task of properly taking care of the organisational side of government. It houses the implementation of government policy and as an academic discipline; Public Administration studies the implementation and prepares public servants for their work. International public administration assists governments to learn from each other about global best practices and bench-marks and can assist in the development and improvement of for example the municipal billing system and revenue collection in South Africa.

Municipalities must ensure that there are municipal billing system and revenue collection policies in place and that the finance offices are organised in such a way that the budget and collection office environment is conducive to collecting revenue effectively. The finances in the form of revenues are collected from the taxpayers without delay and on a monthly basis; there are control measures in place to curb outstanding revenue and for credit control and debt management. In addition the work procedures are crafted in such a way that they can be adapted continuously and are on a par with world best practices and benchmarks.

The environment in which public administration operates is also critical in the municipal administration environment. For example, when a municipal billing system is planned, all the three spheres of government have to work together in such a way that the political leadership in the spheres have a common understanding, have a buy-in, internalised and integrate such a system. The municipality has to understand the economic profile within its jurisdiction so that when it levies tariffs and collects revenue, the law of equity should apply. In terms of technology, the municipality should be kept abreast of what is happening globally so that the system or software to be put in place can yield greater revenue to the benefit of the municipality.

CHAPTER 3: MUNICIPAL FINANCIAL ADMINISTRATION AND STRUCTURAL ANALYSIS

3.1 INTRODUCTION

The previous chapter analysed the number of issues governing public administration and its development, and how it relates to municipal administration. The chapter also analysed the generic administrative functions and how they relate to the municipal billing system and revenue collection, the role of the state as a pillar of government indicating the various government systems, which can also be applied to the municipal administration environment.

This chapter focuses on the analysis of the spheres of government since 1910 to date, the roles and responsibilities of local government spheres, municipal financial management and administration, the intergovernmental system in South Africa, key local government systems, accounting standards applicable to the local governance system and types of municipal systems. The structural analysis of municipalities would not be sufficient without a discussion of the municipal planning functions. The municipal planning functions are underpinned by the municipal structure, roles and responsibilities of the municipal political leadership such as the council, mayor and its executive committee, municipal manager, Chief Financial Officer, municipal budget and treasury officer. The municipal administration is of paramount importance to guide the strategic direction and oversight in the implementation of the municipal billing system and revenue collections. The municipal leadership will guide the capacity of the structure which can determine the positive or negative impact of municipal billing system on revenue collection. The above will be preceded by an analysis of the profile and elements of the municipal billing systems of the three metropolitan municipalities and followed by a conclusion.

3.2 SPHERES OF GOVERNMENT

In the analysis of the spheres of government attention will be given to the allocation of roles and responsibilities and intergovernmental systems in South Africa. The intergovernmental relations are critical for the planning and implementation of the municipal billing system and revenue collection. If employed properly the relations are an effective tool for the work of the spheres of government. In this section, the focus will be on the three spheres of government

as they relate and are applicable to intergovernmental relations in South Africa. For the purposes of this research, it is paramount to allocate and separate the functions between various spheres in order that there is no overlapping of functions, which can hamper accelerated development or delay work to be done by the various spheres of government.

3.2.1 Background

In the analysis of the development of local government spheres a brief background of the history of intergovernmental and local government planning arrangements in South Africa since the *union* of 1910, proceeding to 1961 and 1993 to date must be provided.

(a) Spheres in 1910

When the *union* of South Africa was established on 31 May 1910, municipal affairs were made the responsibility of the provincial authorities. For many years, the central government showed little interest in municipal affairs and contributed nothing to the development of local government and administration systems appropriate for South African urban areas. In the period prior to the 1910 *Constitution*, the South African state was strictly centralised. The provinces had no real power and were in effect national government structures situated at provincial level. They derived their powers and competencies from the central government, and constitutionally, occupied the place of the second tier of government in a strict hierarchical three-tier setting with the national government at the apex and local government at the bottom. The provincial government, from 1910, was charged with the upkeep, development and control of municipal councils as structures of local government. Due to the fact that the then four provinces were each responsible for local government structures in the provinces, no uniform system of local government developed and municipal councils varied according to the province wherein it was situated and the race group it catered for (Craythorne, 1990:6).

(b) Spheres from 1961 to 1993

The South Africa *Act* of 1909, the Republic of South Africa *Constitution Act* 31 of 1961 and the latter's successor, the Provincial *Government Act* 32 of 1961, conferred powers on provincial councils to legislate on municipal institutions, divisional councils and similar institutions. The legislation passed in 1910 has resulted in the creation of municipalities in all

four provinces, divisional council in the Cape Province, village councils and village management boards, town boards, health committees and local boards. These bodies had varying powers but all were corporate bodies mostly with elected members.

For the purpose of supervision, they fell under their respective provincial administrations. Under the 1983 *Constitution* in which local government was spilt into 'own affairs' and 'general affairs' components, control over local government was divided between the central and provincial levels of government. The central government then became interested in local government and administration systems for coloureds, Indians and whites only after the attention was focused on the new constitutional dispensation for the RSA which evolved gradually after 1977. The three levels of government and thus also the three sets of institutions concerned, namely the central level also referred to as the national level, the regional level consisting of four provincial administrations and six self-governing territories, and the local levels consisting of hundreds of local authorities. The Republic of South Africa in its 1996 *Constitution* has retained the trias politica or the separation of the legislative, executive and judicial functions, although in somewhat amended form, as the executive has become more powerful and this has rather diminished the importance of Parliament. The country has also retained three spheres of government (Craythorne, 1990:17).

The multiparty negotiations at Kempton Park laid the basis for the future of local government, which was encapsulated mainly in the *Local Government Transition Act* (209/1993) and the *Constitution* (1996). The first democratic elections in 1994 introduced the element of democratic representation in governing structures but did not significantly alter the power relations between the various tiers of government. The national government retained for all intents and purposes legislative and executive authority over the territory of South Africa and although provinces had legislative competences in respect of matters listed in the *Constitution*, provincial legislation could, under certain circumstances, be overridden by the central government. Local government had no constitutional standing of its own and was, in fact, listed as a functional area of provincial legislative competence. It derived its power from the two superior tiers of government, namely national and provincial, and continued in its role as the lowest tier of government in a strict hierarchical structure. Local government was notionally autonomous “within the limits prescribed by or under the law” and was entitled to regulate its own affairs (Craythorne, 1990:17).

In Chapter 3 of the *Constitution* (1996), on co-operative government, the new order is described as follows: “In the Republic, government is constituted as national, provincial and

local spheres of government, which are distinctive, interdependent and interrelated.” It swept away the hierarchical pyramid model and replaced it with what could be described as three “concentric circles” which intersect with each other. While a clear hierarchy is maintained in terms of the areas of competences, a new, yet unexplored, legal space for local government was created. This described the history of the tiers of government from 1910 to 1993 when the country witnessed the dawn of democracy in South Africa.

In concluding the section, it can be indicated that, during the previous dispensation, local government had no constitutional standing of its own and was, in fact, listed as a functional area of provincial legislative competence. It derived its power from the two superior tiers of government, national and provincial and continued in its role as the lowest tier of government in a strict hierarchical structure. Local government was notionally autonomous “within the limits prescribed by or under the law” and was entitled to regulate its own affairs (Craythorne, 1990:17).

3.2.2 Spheres of government

The South African constitutional framework created a multisphere system of government. Each sphere is distinct, with legislative and executive autonomy entrenched by the *Constitution* yet these spheres are interdependent and interrelated. Government has the responsibility to make policies and laws about the rights and responsibilities of citizens and the delivery of government services. Government collects revenue from taxes and uses this money to provide services and infrastructure that improve the lives of all the people in the country, particularly the poor. The *Constitution* of South Africa sets the rules for how government works according to the three spheres of government in South Africa, namely: national, provincial and local governments.

The national and provincial spheres of government provide national and provincial policies and frameworks and guidance in terms of how municipalities or local government is going to be run. The relationship between local government and higher spheres of government are critical in ensuring that there is no unfunded mandates which end up not being delivered to the community by any sphere of government. Craythorne (1990:40-47) describes the critical issues regarding authority and power, politics, control, uniformity, functional difference, political philosophy, finances and resource mobilisation which are fundamental towards the success or failure of the relationship between local government and higher spheres of government when services are left undelivered to the community. The framework for co-

operative governance as envisaged in the Act centres around national, provincial and local governments (Fourie *et al.*, 2011:11).

(a) National government

The government machinery is made up of three parts: the elected members or legislatures who represent the public, approve policies and laws and monitor the work of the executive and departments; the Cabinet or executive committee who co-ordinates the making of policies and laws and oversees implementation of programmes by the government departments; and the departments and public servants who are responsible for doing the work of government and account to the executive.

(b) Provincial government

There are nine provincial governments. Some provincial laws are approved by legislatures in each province. The legislature also passes a provincial budget every year. Legislatures are elected in provincial elections that are held with national elections, every five years. A premier is elected by the legislature and appoints members of the executive council (MECs) to be the political heads of each provincial department. The MECs and the Premier form the provincial executive council (cabinet). Provincial departments employ directors and civil servants to do the work of government. The provincial MEC and Department of Local Government are responsible for co-ordination, monitoring and support of municipalities in each province.

(c) Local Government

South Africa is divided into local municipalities and each municipality has a council where decisions are made and municipal officials and staff who implement the work of the municipality. The council is made up of elected members who approve policies and by-laws for their area and the council has to pass a budget for its municipality each year.

In closing this section, the concept of co-operative governance especially as it relates to the three spheres as being distinctive, interdependent and interrelated and enjoins them to cooperate with one another in mutual trust and good faith needs to be clearly understood by each sphere of government. The powers and functions must be understood because they are

critical in ensuring that a sphere of government or organ of state does not encroach on the geographical, functional or institutional integrity of government in another sphere. The distinctiveness, interdependent and interrelated characteristics are critical in terms of separation of functions within the spheres of government. Regarding, the impact of the municipal billing systems on revenue collection, the spheres of government should use the existing structures and co-operate to find solutions with regard to billing inaccuracy and incorrectness in three selected metropolitan municipalities.

3.3 ROLES AND RESPONSIBILITIES OF SPHERES

For the purpose of this section, schedules 4 and 5 of the *Constitution*, states that municipalities are responsible for functions such as electricity, sewage and sanitation, refuse removal, water, stormwater drainage, municipal health services, street trading, firefighting services, land use management, municipal public transport, abattoirs and fresh food markets, libraries and other facilities, parks and recreational areas and local tourism. There are various types of accountabilities that will ensure the accomplishment of the objectives because the spheres of government in the South African context are distinctive, interrelated and interdependent. However, the national and provincial governments have to support municipalities to plan and implement various programmes and financial systems such as effective municipal billing systems and revenue collection.

The fiscal functions of central and local governments are traditionally analysed in terms of their respective roles and responsibilities for income redistribution, expenditure provision, tax assignments and tax transfers. Questions about the extent of centralisation and decentralisation are critical when dealing with the issue of intergovernmental finance: Which level of government will be responsible for providing specific services? How will those services be financed? The powers of local government, as stipulated in the *Constitution*, enjoy significant insulation from the possible effects of the other spheres of government. The *Constitution* delineates public functions into two categories: those that are concurrent and those that are exclusive.

3.3.1 Concurrent functions

In terms of the *Constitution*, a function is concurrent if more than one sphere of government is responsible for making policy, legislating, administering or monitoring performance in

relation to that function. Schedule 4 of the *Constitution* lists the functional areas of concurrent national and provincial legislative competence. All local government functions listed in Part B of Schedules 4 and 5 of the *Constitution* are concurrent functions. This is because, in all instances, either national or provincial government may regulate how municipalities exercise their executive authority in relation to these functions (Fourie *et al.*, 2011:33; National Treasury, 2011a:31).

3.3.2 Exclusive functions

A function is exclusive if only one sphere of government is responsible for making policy, legislating, administering or monitoring performance in relation to that function (National Treasury, 2011a:31). The *Constitution* does not define the exclusive functions of the national government as it is responsible for all government functions that have not been specifically assigned to either the provincial or local government.

3.3.3 Roles and responsibilities of municipalities

The Municipal Demarcation Board's ranking of functions provides a useful framework. Municipalities ought to prioritise the Priority 1 functions in the way their administrations, planning and budgeting are structured and managed. To this end, the specific circumstances within a municipality should also inform the ordering of the priorities and the consequent allocation of resources. The legislative authority remains with national and provincial government, while the administration of the function is assigned to the municipality (National Treasury, 2011a:33). The *Constitution* provides for three types of municipalities according to categories: Category A, 8 metropolitan municipalities, Category: B 226 local Municipalities and Category C: 44 district municipalities. The metropolitan municipalities are responsible for all the local government functions within their respective areas of jurisdiction. Each district municipality includes several local municipalities, and the powers and functions assigned to local government in that area are shared between the Category B and C municipalities (Fourie *et al.*, 2011:5).

Functions can be devolved from national and provincial to local government by delegation of assignments. Table 3-1 indicates the Municipal Demarcation Board's division of functions.

Table 3-1: Local government functions in terms of the *Constitution*

Functions in terms of the <i>Constitution</i> of the Republic of South Africa		
Priority 1 Function	Priority 2 Function	Priority 2 Function
Water (potable)Electricity reticulation Sanitation Refuse removal Cemeteries Fire fighting Municipal health services Municipal planning Municipal roads Stormwater Traffic and Parking Building regulations Municipal public transport	Air pollution Beaches and amusement facilities Cleansing Control of public nuisance Fencing and fences Selling of food to the public Noise pollution Pontoons and ferries Pounds Street lighting Street trading Trading regulations	Municipal parks and recreation Local sport facilities Public places Local tourism Local amenities Municipal airport Licensing of dogs Child care facilities Selling of liquor to the public Markets Burial of animals Municipal abattoirs

Source: National Treasury. 2011a:33. *2011 Local Government Budgets and Expenditure Review 2006/07-2012/13*.

The municipality is fully responsible for deciding how to carry out the function, the allocation of resources to the function and the actual execution of the function. A strong leadership is needed to guide the planning and implementation of programmes including the municipal billing systems and revenue collection in the three metropolitan municipalities.

3.4 MUNICIPAL FINANCIAL ADMINISTRATION

The municipal billing system is a component of municipal financial management and administration. If the municipal billing system produces inaccurate or incorrect bills, it means that there is a serious problem with the municipal financial management and administration in the system of local governance, which needs to be investigated. This is necessary as incorrect bills will impact negatively on revenue collection and thus on public confidence in the local governance systems.

In this section, it is imperative to analyse the municipal financial management and administration. According to UN-HABITAT (2009:1), *municipal finance* refers to the revenue and expenditure decisions of municipal government which cover the sources of revenue that are used by municipal government i.e. taxes, user fees and intergovernmental transfers. It includes ways of financing infrastructure through the use of operating revenues and borrowing as well as charges on developers and public private partnerships. Municipal finance also handles issues of expenditure at local level and the accountability for expenditure and revenue decisions, including the municipal budgetary process and financial management.

3.4.1 Accounting standards

Municipal billing systems can impact revenue collection positively or negatively. If a municipal billing system impacts the revenue collection negatively, then this will have another impact on the presentation to the financial statements and any book of accounts of municipalities. On the other hand, the information in the financial statements will not be reliable in terms of the availability, accuracy and protection of information as there will be weaknesses and the recording of revenue and debtors and the related data source and billing will not be aligned and misstatements will be the order of the day.

For the purposes of this research, *financial reporting* is the means of communicating financial information to users in a manner which is understood in the context and limitations, thus enhancing the users' confidence in the reported information. Such information must be based on sound accounting standards. The goal of accounting standards is to provide a set of generally recognised accounting concepts and principles, which brings about the consistent treatment of accounting transactions and presentation of the financial results (*White Paper on Local Government*, 1998:125). The state of affairs accords various users of municipal published financial statements to rely on and evaluate information regarding the financial position and operating results (Fourie *et al.*, 2011:530).

To this end, accounting standards give those who prepare financial statements guidance as follows:

- (i) explaining the accounting treatment of transactions including when to recognise accounting entries;
- (ii) explaining the accounting measurement of transactions; and
- (iii) explaining the presentation and disclosure requirements of transactions in the annual financial statements.

In closing this section, it will be imperative therefore to ensure that the information input into the municipal billing system is correct and impact revenue collection positively in order to generate credible financial reports in the end. The accounting standards as set out in the generally recognised accounting practice are key when it comes to the planning, implementation and reporting of the performance of accounts in the municipal billing system continuum. The recognition of the set standards will eliminate incorrect financial statements and thus minimise audit queries.

3.4.2 Intergovernmental system in South Africa

For the purposes of this research and in particular the municipal billing system and its impact on revenue collection, the intergovernmental relationships relate to fiscal relations and fiscal framework in South Africa. In this section, the following will be analysed: intergovernmental system, budget council, local government budget forum, process of revenue sharing among spheres, division of revenue vertically and horizontally, fiscal accountability, fiscal decentralisation and intergovernmental forum.

3.4.2.1 Conceptualisation of the intergovernmental relations system

The South Africa's fiscal system is based on a revenues sharing model as describe in the *Intergovernmental Fiscal Relations Act (97/1997)* and is shared in terms of vertical division of revenue between the spheres of government and horizontal division within a sphere. The *Intergovernmental Fiscal Relations Act (97/1997)* was enacted to promote co-operation between the national, provincial and local spheres of government on fiscal, budgetary and financial matters and to prescribe a process for the determination of an equitable share and allocation of revenue raised nationally. The *Intergovernmental Relations Framework Act (13/2005)* establishes a framework for the national government, provincial governments and local governments to promote and facilitate intergovernmental relations; and to provide for mechanisms and procedures to facilitate the settlement of intergovernmental disputes (Fourie, *et al.*, 2011:16-17). According to Fourie *et al.*, (2011:87), municipalities must, in their fiscal and financial relations with national and provincial spheres of government and with other municipalities, promote cooperative governance in accordance with Chapter 3 of the *Constitution* and the *Intergovernmental Fiscal Relations Act (97/1997)*.

(a) Intergovernmental structure

In order for local government to participate effectively in intergovernmental relations, it needs to act as a collective, through an organised local government structure. In terms of the *Intergovernmental Relations Act* (13/2005), intergovernmental structures have been established. The intergovernmental system depends on well-coordinated policy, planning, budgeting, implementation and reporting. Municipalities are generally represented, in national intergovernmental structures by organised local government. At the provincial level, municipalities are either represented directly or through the provincial local government associations (National Treasury, 2011a:30).

(i) Budget council

The budget council consists of the Minister for Finance who is a chairperson of the council and the MEC for finance in each province. The budget council is a body in which the national government and the provincial governments consult on fiscal, budgetary or financial matters affecting the provincial sphere of government, proposed legislation or policy which has financial implication for the provinces, or for any specific province or provinces, any matter concerning the financial management, or monitoring of the finances of the provinces or of any specific provinces and any other matter which the Minister of Finance has referred to the council.

(ii) Local government budget forum

The local government budget Forum consists of the Minister of Finance, the MEC for Finance in the province, five representatives nominated by the national organisation recognised in terms of the *Organised Local Government Act* (52/1997) and one representative nominated by each provincial organisation recognised by the Act (Fourie *et al.*, 2011:23). The budget forum is a body in which the national government, the provincial governments and organised local government consult on fiscal, budgetary or financial matters affecting local government, proposed legislation or policy which has financial implications for local government, and any matter concerning the financial management, or the monitoring of the finances, of local government.

(iii) Intergovernmental forum

Apart from the forums indicated above, the intergovernmental forums as indicated hereunder play an important role in co-operative governance and in shaping policy and resource allocation decisions through the extended Cabinet; the President's Co-ordinating Council, Minister and members of executive councils; various technical intergovernmental forums and the Financial and Fiscal Commission (National Treasury, 2011a:30-31).

In concluding this section, the budget council and local government budget forum can be strategic machinery to facilitate the improvement of the municipal billing system and revenue collection.

(b) Division of Revenue Bill and the Act

The Division of Revenue Bill and the Act are the vehicles used by spheres to share revenue in South Africa. The process of revenue sharing among spheres of government happens in line with the revenue sharing and allocation of money as determined in terms of Section 214 of the *Constitution*. Every year when an annual budget is introduced, the Minister must introduce in the National Assembly a Division of Revenue Bill for the financial year to which the budget relates. Sections 9 and 14 of the Act set out the consultation process to be followed with the Financial and Fiscal Commission (Fourie *et al.*, 2011:25), including recommendations regarding the equitable division of nationally raised revenue (National Treasury, 2012:W1:1).

(c) Local government fiscal framework

The South African constitutional framework created a multi-sphere system of government and each sphere is distinct, with legislative and executive autonomy entrenched by the *Constitution*, yet these sphere are interdependent and interrelated. There is division of political power as well as administrative accountability and fiscal responsibility. The intergovernmental fiscal system is based on revenue sharing. There is a service and local government framework in terms of how the local government fiscal framework relates to municipalities' service delivery responsibilities namely the community's demand for services that a municipality must provide. The local government framework must consider its relationship with the actual revenue collected by a municipality, how each municipality chooses to use its available resources, municipality's governance and management systems to

implement the budget and manage service delivery, e.g., the municipal billing systems' effectiveness is critical in this example and what actually gets delivered by the municipality in terms of taxpayers getting value for their money, community benefiting from the services provided, equitable distribution of services and whether the level of service is being provided in terms of the benefit principle and where necessary, any cross-subsidies sustainability built into the governance systems (National Treasury, 2011a:46-47).

(i) Vertical division of revenue

As part of the local government fiscal framework, the vertical division of revenue relates to the division of revenue between the spheres of government. The constitutional assignment of powers and functions to local government has a direct bearing on the local government fiscal framework (National Treasury, 2011a:27). To this end, the local government fiscal framework must provide municipalities with access to revenue sources that are commensurate with the services they must provide. The vertical intergovernmental relations come into force between governmental bodies in different spheres of government. In South Africa it represents relations between national, provincial and local spheres of government (Hattingh, 1998:23 and Whelan, 2002:4-5).

(ii) Redistribution of revenue

Redistribution among the three spheres is achieved through the vertical division of revenue and among provinces and municipalities affected through their respective equitable share formulae (National Treasury, 2011a:29). Determining allocations in terms of the vertical division of revenue to each sphere of government inevitably involves trade-offs that are made in the course of a comprehensive budget process driven by political priorities, and which cover all aspects of governance and service delivery. According to Hodges (1939:97), the adequacy system in terms of provision of revenue should produce sufficient revenue to maintain budget equilibrium over a reasonable period of time and this principle should also apply to an individual tax if it is designated for a particular purpose.

(iii) Horizontal division of revenue

The horizontal division of revenue relates to the division of revenue within a sphere (Zondani, 2008:39). The horizontal division of equitable share between municipalities needs to be driven by the five objectives namely equity, efficiency, and ensuring basic level of administrative capacity in the most resource-poor municipalities, predictability and incentives for proper financial management at local level (*White Paper on Local Government*, 1998:120). The equitable share is an unconditional grant to enable provinces and local governments to provide basic services and to perform any functions assigned to them. These allocations are not appropriated in the national budget but only in the provincial or municipal budget, as they are regarded as a direct charge, legislated in the annual Division of Revenue Act. Once the provincial and local equitable share allocations are determined, a formula is used to effect the division between municipalities (*White Paper on Local Government*, 1998:120).

In concluding this section, it should be emphasised that local government framework as it relates to the vertical division of revenue, redistribution of revenue and horizontal division of revenue especially across local government spheres has to accommodate the municipal billing system during the budgetary processes so that municipalities are able to procure quality and user-friendly billing systems that will have essential modules to deal with municipal billing system source data and systems.

(d) Fiscal accountability and decentralisation

In the field of local government fiscal relations, fiscal accountability and decentralisation play a crucial role to ensure that funds transferred to any sphere are accounted for properly (USAID, 2010:12). The strength of decentralised governance will depend upon the existence of an enabling environment within peace, stability, legitimate and democratic political framework (Farazmand and Pinkowski, 2007:691). Accountability and decentralisation can make or break the fiscal relations system (National Treasury, 2011a:75-76). For the purposes of this research on the impact of the municipal billing systems on revenue collection, it is critical to analyse the accountability and decentralisation perspectives. Accountability means the ability to make decisions necessary for the optimal employment of resources such as planning and implementation of the municipal billing system to have a positive impact on revenue collection. In other words, financial decisions-making in respect of financial policy and resource management has become increasingly dependent on the timeous availability of

financial and other resources related to the municipal billing system and revenue collection (Fourie *et al.*, 2011:246).

(i) Fiscal accountability

The revenue-service link between municipalities and residents is critical to foster greater accountability (National Treasury, 2011:45). To this end, requiring poor households to pay even very small amounts for services may deepen local democracy and municipal accountability and that is critical when determining the municipal tariff. It is important to note that municipal councils, mayors and municipal managers are responsible for ensuring that available revenues are collected, resources allocated appropriately, and procurement and service delivery processes are economical, efficient, effective and equitable. According to Serageldin, Jones, Vigier, and Solloso (2005:18), accountability for performance is the cornerstone of good governance and a major tool in financial management.

The *Intergovernmental Fiscal Relations Act (97/1997)* establishes a line of communication that goes from municipalities to the provinces and directly to the Presidency. There are guidelines that must be followed in the implementation of the intergovernmental actions to ensure that intergovernmental actions are performed in a co-ordinated manner. Thornhill (2009:675) advises that guidelines be established within which policies and administrative practices can be developed. Thornhill further puts the guidelines as follows: public accountability is not only a prerequisite for democracy, but also for proper administrative arrangements. Should insufficient measures exist to call political office-bearers and officials to account for their actions or inactions, the possibility of misuse of power is created.

Fourie (2007:741) maintains that a number of institutions have been established in terms of the *Constitution* to strengthen constitutional democracy and to enhance governance. He states further that in order to ensure effective and efficient expenditure, accountability is a key component, as accountability is one of the prerequisites of democracy and good governance that compel the state, the private sector and civil society to focus on results, seek clear objectives, develop effective strategies, monitor and report on performance. This implies holding individuals and organisations responsible for performance measured as objectively as possible. Executive power and administrative practice have been viewed historically as a primary source of tyranny. The National Treasury (2011a:74-76) identifies key mechanisms for strengthening accountability and alignment of planning, budgeting and report in local

government. These important mechanisms were discussed in Chapter 2 of this research, under the concept of *control*.

(ii) Fiscal decentralization

Fiscal decentralisation relates to self-financing or cost recovery through user charges, co-financing or co-production arrangements through which the users participate in providing services and infrastructure. Fiscal decentralisation can also be exercised through monetary or labour contributions, expansion of local revenues through property or sales taxes or indirect charges, intergovernmental transfers that shift general revenues from taxes collected by the central government to local governments for general or specific uses, an authorisation of municipal borrowing. The mobilisation of either national or local government resources through loan guarantees and dispersal of financial responsibility is a core component of government (Sharma, 2005:44).

Fiscal decentralisation offers benefits to developing countries, as functions such as housing, municipal infrastructure; school education and primary health are better situated at the regional or local level. Dealing with interjurisdictional spillover effects such that a government that is closer to the people is better able to identify and respond effectively to the particular demands, needs and priorities of its constituents than a more distant government, is a crucial aspect of the establishment of subnational governments (Adugna and Ford, 2010:2).

This section identified key issues regarding the spheres of government, namely: strong intergovernmental relations to deal with the roles and responsibilities assigned to each sphere. The work done by the budget council and local government fiscal forum can be achieved through a co-operative spirit. The division of revenue sharing as it relates to the vertical and horizontal revenue sharing process is imperative in the local government fiscal system. Fiscal accountability and decentralisation can play a huge role to ensure that the money which is transferred within spheres is properly accounted for in the decentralised system. The intergovernmental relation structures can play a decisive role in ensuring that the municipal billing systems and revenue collection are described, planned and implemented effectively. In the light hereof, the spheres of government must provide mechanisms for improving the public confidence as it relates to debt reduction and providing correct and accurate bills, which will at the end of the chain improve the municipal billing system and enhance revenue collection.

3.5 KEY LOCAL GOVERNMENT SYSTEMS

Fourie *et al.*, (2011:257-256) maintains that information systems deal with a wide variety of matters in most large municipalities. The authors, however, states that major financial applications are commonly encountered in local government, namely dealing with underlying accounting concepts, recognition and measurement of accounting transactions, the annual budget in so far as strategic management, tactical management and operation management are concerned and the basic information required by the system as preparation for the budget, consideration and approval, control and reporting, capital budget and integrated development plan, asset and risk management, cash management and consolidated billing.

For the purposes of this research, the financial systems used will play a pivotal role in terms of the modules which are packaged in the system. The municipal billing systems will be one of the modules of the financial system. The choice of a financial system can also impact the billing positively or negatively and has an effect on revenue collection if the political leadership, administration and the intergovernmental relations components do to not play their role effectively. The intergovernmental relations can play a decisive role in ensuring that the municipal billing system and revenue collection are co-ordinated effectively by ensuring that all stakeholders work together to avoid incorrect bills, that meter readings are updated correctly in the accounts of the municipality, that data cleansing of bills is done regularly and to determine challenges in time before customers can lodge complaints regarding the billing problems.

Before analysing financial systems, it is important to mention that successful billing relies on the software providing reliable and accurate information on accurate property information, accurate customer information, accurate tariffs associated to properties, accurate ward information per property and flexibility to meet the municipality's reporting needs. Such a billing integrity can be enhanced by preventive and detective controls. Financial management encompasses a wide range of activities but for the purposes of this research on the impact of the municipal billing system on revenue collection, the criteria will centre on budget planning, monitoring, accounting and financial reporting, audits and internal controls.

Table 3-2: Key Local Government systems

Systems	Purpose
Current accounting systems	They are used as business applications as financial management applications and other uses. e.g. SAMRAS, PROMUN, PAYDAY, the city of Cape Town employs SAP and a number of business applications such as LIS and LinkDirect, SIGMA, GIS and Prepaid Vendor Systems
Municipal billing systems	Municipalities have a vast range of clients, all charged differently and with different billing frequencies. Municipal billings systems include billing functionality for rates, refuse and consumption, all of which interface and update directly into the integrated financial management system. The system must be able to be modified to manage various billing frequencies and a range of customer categories and be flexible enough to handle tariff structures for both fixed and consumption services.
Budget preparation and monitoring	Budget preparation activity is done annual and based on the previous year's performance and not based on the municipal development plan and SDBIP. Annual budgets are prepared by each department and then consolidated. Budgets are monitored regularly and not effective because overdrafts are common.
Compliance with National Treasury reporting	Each municipality is required to submit monthly financial reports to provincial and National Treasury.
Internal controls	Internal controls as applied to the accounts of government include all forms of departmental supervision of the accounts and general financial control procedures and systems on internal checks. It deals with policies that are designed to prevent and detect frauds that affect the organisations resources. Municipalities show weakness with regard to controls of incorrect and inaccurate billing systems and revenue collections and hence debts accumulate and are not being received.
Tax database	A tax database is an essential document for a municipality. A tax base is an effective tool to enable the municipality to calculate its full revenue potential which can be used for budgeting purposes.

	The tax base should be updated timeously in order to charge the correct amount of taxes and much less is collected from the taxes.
Revaluation of property values of Act	Under the Municipal Property Rates Act, the municipalities are allowed to have a new valuation roll every five years. If valuations are done constantly, it will show that the municipality has the initiative and will to have correct municipal billing systems and increase municipal revenue.
Collection strategies	This pertains to measures resorted to by the municipality to collect local taxes. Collection strategies could be passive, active or aggressive. Passive is where the municipality sends statements of accounts to residential and business owners and uses collectors to accept payments and no action is taken if the taxpayer refuses to pay. An active strategy is when the municipality exerts some effort such as publishing the names of delinquent taxpayers in the hope that the slight embarrassment will force those taxpayers to pay. The aggressive strategy is when the municipality employs extreme measures, which are allowed in the <i>Municipal Systems Act</i> and the financial management act, by-laws and credit and debt collection policies to recover local taxes due and these include hiring of lawyers to remind taxpayers of their obligation and court litigation.
Organisational charts and job descriptions	An organisational chart shows hierarchy within the municipality and job description defines the responsibilities and accountabilities of all the personnel in the municipality.
Conduct of regular council meetings	The monthly council meeting is a requirement of the National Treasury and the <i>Municipal Structures Act and the Municipal Systems Act</i> .
Barcoded asset audit (BAUD) System	Is an asset management system. Quick and accurate data collection is an inherent advantage of this system, which uses of durable and high quality aluminium bar code labels to identify assets and locations. Collected data is transferred to computers electronically, which results in the elimination of keyboard data entry and the associated risk of human error. All assets are marked or identified with aluminium bar code labels and then linked to a location, cost centre, department, individual, building, etc. for electronic tracking purposes in future.
Personnel and Salary	Every organisation employs staff and creates personnel records.

Administration system (PERSAL).	Staff is among an organisation's most important and usually most expensive assets. Like any other asset, staffs are a resource that must be deployed to maximum advantage. The proper management of personnel records can make a significant contribution to this objective by ensuring that information is available to make decisions and to protect the rights both of the state and individuals. A personnel record system should run effectively whether it is in a purely paper-based environment or in the emerging electronic environment.
Basic Accounting System (BAS)	The new system offers better financial control and an improved graphical interface and user-friendliness. Unlike FMS, BAS is an online cash-based system and prevents departments from overspending their budgets.
Logistical Information System (LOGIS)	The implementation of LOGIS is an attempt to apply stock control by means of a uniform computerised system. Items on LOGIS are identified by unique numbers and unique descriptions. This system is not just the sensible control of consumable items but also provides better control over capital equipment like moveable physical assets. It coincides with the amended policy of the government in implementing more modern accounting practices. An additional aid to LOGIS is the electronic ICN catalogue or Mini-cat, which contains a picture of the different inventory and store items. Each picture has a description and the item control number, which is used by LOGIS.
External audits	Annual external audits are an integral part of any financial management system. External audits also evaluate the adequacy of the internal controls of an organisation. The external audits should be conducted by the Auditor general. Municipalities can engage internal auditors to conducted internal audit work.

Sources: Villareal, V.V. 2011:18. Belize Municipal Development Project: Municipal Finance and Revenue Enhancement, July 2011, Provincial Government of the Western Cape: Asset Management Review. Working Paper. 2003:49-60 and Modernisation Programme. Blue Print. Supply Chain Management. 13 November 2009:22. Ref.No.M.P.6/1.

The municipal billing landscape has not changed much since 1994 although markets continued introducing various transmission technologies. According to Global Billing

Association (2007: 18), billing is more strategic than ever, yet the best strategy is useless without putting it into operation. Customers expect any service to be available from any network and device at any time, independent of the payment method. In this context, business support systems have always been an essential building block and today are more strategic than ever, and therefore, the bills issued should at all times be accurate and correct.

Municipalities employ a range of computer systems, which are supported by the respective vendors of these computer systems. Municipalities across the board use a number of different computer application systems for financial accounting purposes. Municipalities also employ a host of different business application programmes, which are integrated into the financial accounting systems. Section 5 of the MFMA enables, the National Treasury to investigate any system of financial management and internal control in a municipality or municipal entity and recommend appropriate improvements. This relates to all financial applications, including those used for revenue, expenditure, supply chain, asset and liability management, payroll and accounting. To this end, it is imperative that municipalities operate effectively and utilise financial applications optimally to present credible information on a timely basis for internal and external use.

To this end, guidelines should be issued on the minimum standards for financial systems, which would minimise excessive or duplicate systems, examine critical integrated IT solutions to maximise capabilities and achieve cost-effectiveness while dealing with associated maintenance costs. These minimum standards will also need to be aligned with the envisaged Standard Chart of Accounts (SCOA) requirements for application in all municipalities and municipal entities. It was observed that municipalities have in the past diluted the benefits of financial applications by choosing to implement certain ‘components’ or altering the application to meet their specific requirements or utilising an application that was not integrated with the financial system (National Treasury, 2011).

Service delivery is a by-product of effective, efficient and economical processes that are informed by strategic direction, resource planning and implementation. An integrated financial system (software application) is an ‘enabler’ that translates effective processes into meaningful management information. The effectiveness of a financial system is determined by the quality and credibility of the data. If the data input into a financial system is incorrect, then any management information generated by the system will lack credibility and reliability for decision-making.

The combination of both credible data inputs and an effective financial system is fundamental to improving the content, quality and timeliness of financial reporting. Furthermore, a municipality with poorly designed business processes will not resolve the problem by implementing a new financial system. Processes must be redesigned with the necessary data validation rules if the municipality is to improve its data integrity. This foundation is integral to ensuring that software applications generate credible information and can be used effectively by municipalities. Most system modifications are necessitated by process flow changes that municipalities may have requested after the initial scoping work was undertaken. The development of integrated processes will facilitate the effective management of operations and improve service delivery as they relate to municipal billing systems and revenue collection.

3.6 MUNICIPAL STRUCTURE

In municipal administration there are structures which have been created in terms of the *Municipal Structures Act (32/1998)* and the *Municipal Finance Management Act (56/2003)* to perform critical functions of which the municipal billing systems and revenue collection are part. Without those structures it would be difficult for various services to be rendered successfully in municipalities and to plan and implement municipal billing system and revenue collection. In terms of Section 139 of the *Constitution*, the provincial or national sphere of government may intervene in the work of a municipality only if there is an executive failure or a budget or financial crisis.

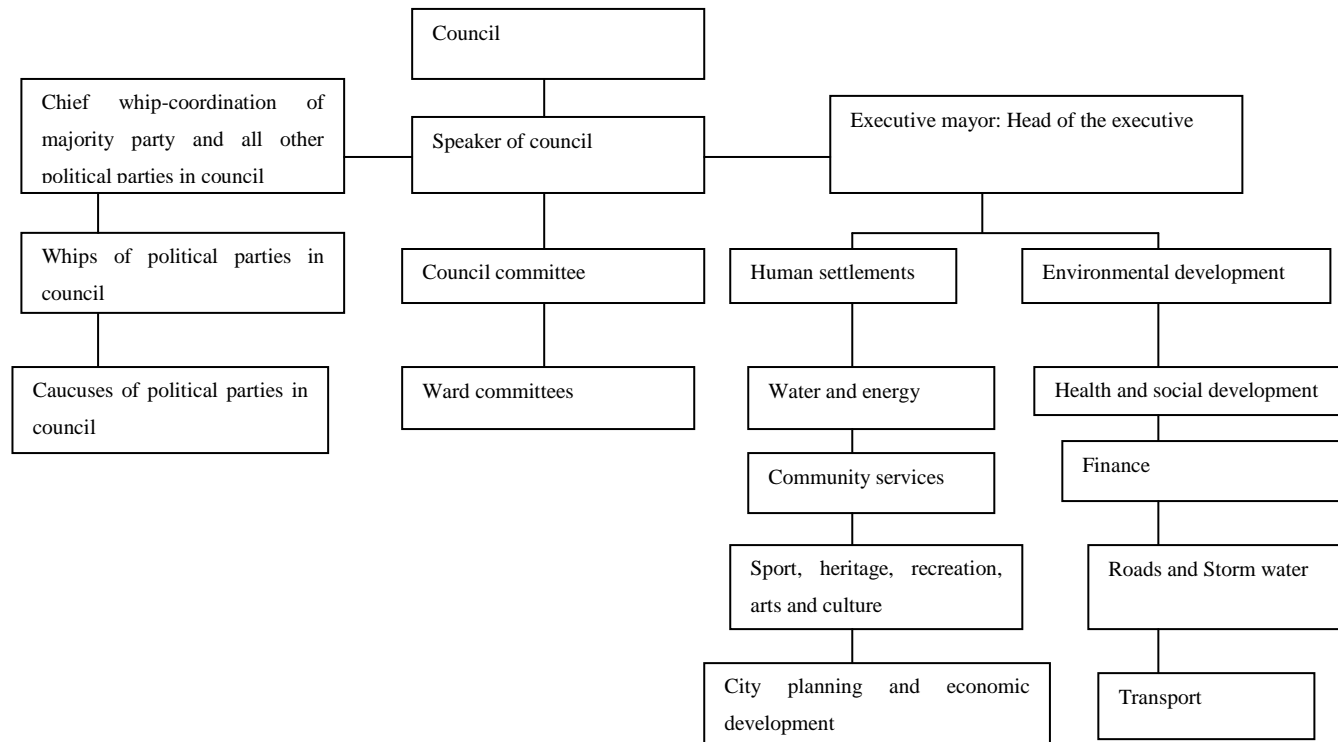
The National Treasury outlines in terms of the Chief Financial Officers Handbook for Municipalities (2010) the municipal structure, categories of municipalities, roles and responsibilities of municipal council, councillors, non-executive councillors, executive mayor or executive committee, Municipal manager and Chief Financial Officer (CFO). These structures are critical for the effective planning and implementation of the municipal billing system and revenue collection. In order to give effect to these structures, the organogram as adopted from the Ekurhuleni Metropolitan Municipality regarding the political and administration structures will be reflected and then followed by the functions of municipal leadership structures such as the council, mayor, portfolio committees, municipal manager, top management and treasure office and structure of the Nelson Mandela Bay Metropolitan Municipality and the City of Johannesburg Metropolitan Municipality.

Part 2 of Chapter 1 of the *Municipal Structures Act* (32/1998), legislates the types of municipalities that may be established within each category of municipality. Each type is defined according to a system or combination of systems of municipal government, namely collective executive system, mayoral executive system, plenary executive system, sub-council participatory system and ward participatory system (Fourie *et al.*, 2011:31).

(a) Political Structure

In terms of the political structure, the Ekurhuleni Metropolitan Municipality implemented a mayoral executive and ward participatory system of local governance, which ensures that governance is taken right down to community level, and that all citizens in the metropolis are represented in decision-making. This increases residents' sense of belonging, accountability and empowerment and involves them in the issues of the metropolitan municipality. The municipality consists of 175 councillors of both elected (88 ward representatives) and proportional (87 councillors) representation. Each of the 88 ward councillors chairs a ward committee as part of the ward participatory system, which takes participation to community level.

Figure 3-1: Political Structure Model EMM

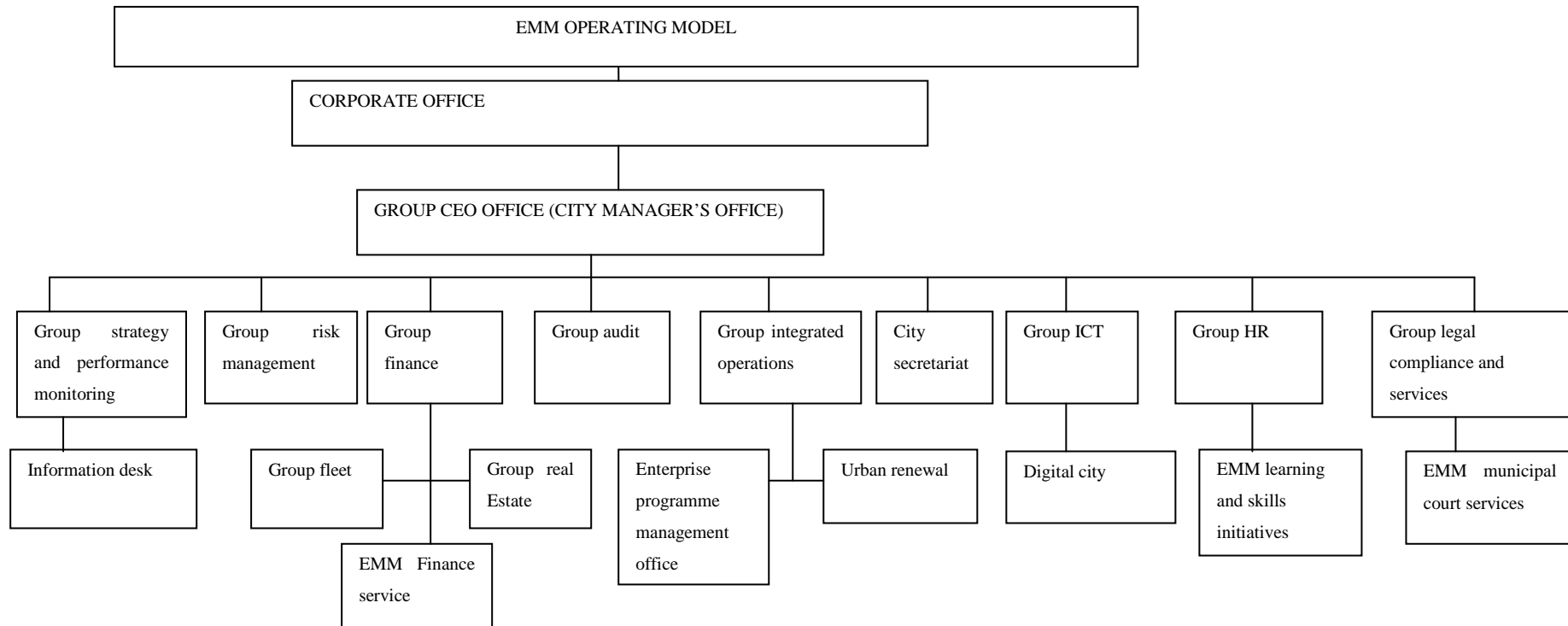


Source: Adapted from Ekurhuleni Metropolitan Municipality, 2011.

(b) Administrative structure

With reference to the administrative structure, the Ekurhuleni Metropolitan Municipality's leadership directs the metropolitan city along private sector business principles, implementing the strategies and plans needed to meet the organisation's long-term goals as set out in the Growth and Development Strategy 2025 (Ekurhuleni Metropolitan Municipality, 2006). Day-to-day management and administration of the municipality are carried out by the city manager and his staff of more than 17 000 led by executive directors, general managers, directors, customer care area Managers and operational levels of management. Accessibility of municipal offices and services remain a priority. Thus, the Ekurhuleni Metropolitan Municipality (EMM) has set up 20 Customer Care Areas (CCAs) in all major centres and more remote locations in Ekurhuleni, providing a direct link between the municipality and the community it serves. The operating model of the Ekurhuleni Metropolitan Municipality, as adopted by council in 2010, is reflected Figure 3-2.

Figure 3-2 Administrative structure operating model EMM



Source: Ekurhuleni Metropolitan Municipality, Annual Report, 2010.

3.6.1 Roles and responsibilities within council and administration

In accordance with the financial governance principles, the *Municipal Finance Management Act* (56/2003) clearly establishes a separation of roles and responsibilities between the mayor and the council and between the mayor and the municipal manager and other senior officials thereby creating a clearer and single line of authority between the council, which must approve council policy; the mayor, who must provide political leadership and manage the implementation of the policy; and the municipal manager, who is accountable to the mayor and the council for implementing policy (Thornhill, 2008:503-504). The role of councillors in municipal finance management is policy-making and oversight while the role of officials is administrative and implementation. The various roles are described in greater detail below.

3.6.1.1 Municipal Council

The *Municipal Finance Management Act* (56/2003) recognises the municipal council as the highest authority in the municipality; the council's power is strengthened by significant vested powers of approval and oversight. The municipal council serves the residents and it is accountable to residents and to other stakeholders such as businesses, customers and users of municipal services. The municipal council delegates its executive authority to the executive mayor or executive committee, but it retains its legislative power and its power to approve policy and budgets and to exercise oversight over the mayor in the implementation of policy, budgets and by-laws (National Treasury, 2010:8).

The approach of the MFMA is also consistent with the Code of Conduct set out in the *Municipal Systems Act* (32/2000) which clearly requires councillors to disclose conflict of interest and prohibits councillors' involvement in tender boards or the boards of municipal entities. These municipal officials, irrespective of their titles can add value towards the planning, implementation and performance of an effective billing system and improvement of revenue collections (Fourie *et al.*, 2011:67-99). Legislation on the municipal council distinguishes the roles of councillors and non-executive councillors as explained below.

3.6.1.2 Ward and proportional representation councillors

Councillors provide the critical political linkage between the executive mayor or executive committee and the community. Therefore councillors can facilitate the consultative processes

prescribed by both the *Municipal Finance Management Act (56/2003)* and the *Municipal Systems Act (32/2000)*, particularly with regard to budgets, IDPs, budget-related policies, tariff-setting for services, indigent policies, long-term borrowing and contract: *Municipal Finance Management Act (56/2003)* and the *Municipal Systems Act (32/2000)* expand the role of councillors, as discussed in the following paragraphs.

With regard to an oversight role through council (or committee) meetings, councillors as overseers must refrain from involvement with the implementation of policies, procedures and directions that they have determined necessary for the community. In terms of the *Municipal Finance Management Act (56/2003)* and the *Municipal Systems Act (32/2000)* councillors are not permitted to be members of the boards of entities, audit committees and a tender or bid committee; and councillors should not serve on planning tribunals and other approval forums. The MFMA suggests that municipal councils strengthen their oversight role by forming portfolio committees within the council. The *Municipal Systems Act (32/2000)* allows the council to form a budget and finance committee, a public accounts committee and a municipal service committee to include water, electricity and refuse removal.

The councillors have a role in ensuring the establishment of effective operational and financial policies and procedures that will yield desired outcomes including the municipal billing system and revenue collection. The financial management tasks that the council is required to undertake so that it fulfils its oversight functions are the following: approving annual budgets, related policies on revenues and indigents, community views, reviewing budget and its performance, reviewing audit and annual reports, considering capital projects and taking responsibility for capital projects and contracts, taking responsibility for incurring debt and determining security over debt, reviewing unauthorised and unforeseen expenditure, and reporting on unauthorised expenses and investigating allegations of financial misconduct (National Treasury, 2010:8).

Councillors need to fully understand their oversight responsibilities to be effective in their role especially with regard to the impact of the municipal billing system on revenue collection. Apart from the Speaker, non-executive councillors generally function in a part-time capacity and are expected to play a political role in representing residents and other stakeholders in the municipality. The *Municipal Finance Management Act (56/2003)* and the *Municipal Systems Act (32/2000)* provide non-executive councillors with important recommendation and approval roles, i.e. they are expected to review, debate, modify and

approve the policies recommended by the executive mayor or executive committee; these include by-laws and policies on priorities that impact on council service delivery.

3.6.1.3 Executive mayor

As the executive authority of the council, the executive mayor or committee must provide political guidance over the policy, budget and financial affairs of the municipality and must ensure that the municipality complies with its legislative obligations. The mayor must, without interfering in the day-to-day administration of the municipality, monitor and oversee the municipal manager and senior managers to ensure that they are carrying out their duties appropriately. The key tools for doing so are the annual Service Delivery and Budget Implementation Plan (SDBIP) and the performance agreements which should specify clearly defined and measurable outputs.

The mayor remains accountable to the council for proposing and formulating policy and overseeing the administration's implementation thereof. The mayor's specific responsibilities are to provide political guidance on the budget process, co-ordinate the budget process with the municipal manager, review the IDP and budget-related policies and ensure consistency with the budget, ensure that the municipality complies with the legislative deadlines for the tabling and approval of the municipal budget, approve the service delivery and budget implementation plan within 28 days after the approval of the budget, approve the performance agreements of the municipal manager and senior management, monitor the financial performance of the municipality through monthly financial reports submitted by the municipal manager, provide council with quarterly budget reports and take action where necessary, report instances of potential or real non-compliance with the budget chapter of the MFMA or in relation to issues that may necessitate provincial intervention, table an adjustment budget if necessary and report instances of unforeseeable or unavoidable expenditure (National Treasury, 2010:8).

In concluding, the mayor of a municipality has a strategic role to play with regard to ensuring that the impact of the municipal billing system on revenue collection remains positive and exploits all means to generate revenue for his or her municipality (Fourie *et al.*, 2011:90).

3.6.1.4 Municipal manager

In terms of the study on the impact of the municipal billing system on revenue collection the municipal manager is responsible for the implementation of approved council policies and the achievement of the objectives set out with regard to the planning and implementation strategies on the municipal billing system and revenue collection. The municipal manager has to account for the system planning and implementation by ensuring that correct staff are recruited to the posts and delegated properly to work on the municipal billing system and revenue collection (National Treasury, 2010:11-13).

(a) Accountability

The municipal manager is firstly accountable to the mayor for the implementation of specific agreed outputs, and secondly, the municipal manager is accountable to the council for the overall administration of the municipality. The municipal manager is therefore the key officer responsible to the mayor and the council for the successful implementation of the relevant legislation. In this capacity, the municipal manager must be fully aware of the reforms required in order to provide the mayor, councillors, senior officials and municipal entities with the appropriate guidance and advice on finance and budget issues especially with regard to the municipal billing systems and revenue collection imperatives (National Treasury, 2010:11).

(b) Staffing

The municipal manager must, at the highest level, manage the change management process, establish appropriate objectives for senior staff, project milestones, time frames and responsibilities while managing those outputs effectively and regularly reporting back to the mayor and the council on progress. It is imperative that a skilled and well-rounded senior management team, complemented with general financial management knowledge, is appointed. The senior management team's roles and responsibilities, depending on the extent of delegations by the municipal manager, will greatly support the expeditious implementation of good financial management practices and governance. It is also appropriate to have the Chief Financial Officer regularly update senior management on finance-related policies and the impact of the municipal billing system on revenue collection (National Treasury, 2010:12).

(c) Delegations

Although the MFMA vests responsibilities in the municipal manager as the accounting officer, the MFMA anticipates that such responsibilities will be shared with the top management team; delegations provide for this; however, the delegation of financial management tasks to junior officials should be avoided. Where an accounting officer delegates any of the accounting officer's responsibilities to the senior management team, and where they are properly qualified and have the necessary experience to play this role, senior managers will be held primarily accountable for any transgressions in exercising these delegated responsibilities (National Treasury, 2010:13).

The accounting officer may delegate tasks assigned in terms of the MFMA to the Chief Financial Officer with the exception of tasks relating to maintaining municipal bank accounts and developing the municipal budget. The Chief Financial Officer may, in turn, delegate certain tasks to other senior officials. All delegations must be in writing and signed by the relevant parties. The municipal manager, in his or her capacity as accounting officer, is responsible for the financial management of the municipality, ultimately ensuring that all municipal billing systems are in place and are properly maintained concerning the impact of the municipal billing system on revenue.

3.6.1.5 Chief Financial Officer

The Chief Financial Officer plays a critical role in terms of planning and execution of the municipal billing systems and revenue collection. In terms of Section 81(1) (a) of the MFMA, the Chief Financial Officer is administratively in charge of the budget and treasury office whose function is relevant to the processes and procedures within the municipal billing continuum and revenue collection. Critical functions which need to be performed by the Chief Financial Officer are among others, budget planning, monitoring and reporting, revenue management, expenditure management, supply chain management, payroll administration, risk management and sound governance arrangements. These functions are integral to municipal finance management. However, for the purposes of this research on the impact of the municipal billing system on revenue collection, the emphasis will be on the duties of the Chief Financial Officer as they relate to budget planning, revenue management and monitoring in municipalities (Fourie *et al.*, 2011:63-65 and National Treasury, 2010: 14).

(a) Budget Planning

The role of the Chief Financial Officer is to assist the accounting officer with budget preparation and budget implementation among other financial management duties, in terms of Section 81(1) of the MFMA. The Chief Financial Officer will have to ensure that the necessary municipal billing systems and revenue collection systems, processes and policies are in place to assist senior managers with their contributions to the budget compilation process and bearing in mind the knowledge of the legislative requirements and supporting regulations, guidelines and budget formats for use to compile an accurate and credible budget and municipal billing systems and revenue collection within the legislative time frames (National Treasury, 2010:26).

(b) Revenue management

Revenue management and efficient and effective systems of revenue management are critical functions of the Chief Financial Officer because the systems enable municipalities to collect all monies due in respect of the common sources of revenue such as property tax, electricity, water and refuse collection (National Treasury, 2010:27). The Chief Financial Officer must ensure that the following are established and provided:

- (i) a sound customer management system;
- (ii) feedback system that allows the customer to comment on the quality of the services;
- (iii) performance system of the municipality which ensures that billing information for metered services is accurate and verifiable;
- (iv) correct billing information with a breakdown on how the amounts due are calculated and sent on time to the customer;
- (v) effective query handling system that allows for timely response and redress in the case of inaccurate billing information;
- (vi) monitoring system to track the efficiency with which queries are resolved; and
- (vii) accessible pay points and mechanisms to facilitate payment for municipal services.

(c) Billing and revenue collection

In terms of this research, the Chief Financial Officer must closely examine existing revenue collection and customer relationship management processes and procedures as this may require an improvement if the municipality is going to maximise the potential of existing sources of revenue. The Chief Financial Officer must closely examine the business processes

that comprise the revenue value chain so that improvements can be made to ensure an efficient and effective billing and revenue collection function data integrity for metered services and assessment rates is critical to ensuring the accuracy of the statement of account presented to the customer (National Treasury, 2010:31).

(d) Intergovernmental amounts due

The Chief Financial Officer must take reasonable steps to amicably and promptly resolve disputes over payments due to the municipality from another government department or agency. The municipality is expected to consider the available options and to negotiate with the relevant officials or political office bearers (National Treasury, 2010:31).

(e) Debtors/Accounts receivable

The MFMA, Section 64, prescribes the municipality's credit control and debt collection policies that must be adopted; Section 97 of the MSA specifies the minimum content of these policies. For the purposes of this study, it is of paramount importance that the Chief Financial Officer ensure that there is reliable billing information which the municipality can trust if the credit control policy is implemented (National Treasury, 2010:31)

(f) In-year monitoring and reporting

The Chief Financial Officer must ensure that financial reporting is done as legislatively required and in terms of the written delegations from the accounting officer and he or she is accountable to the accounting officer for ensuring that the municipality complies with the In-year monitoring and reporting requirements of Section 71 of the MFMA and the MFMA part 5 of Regulations 28-35. The Chief Financial Officer must therefore put the necessary municipal billing systems revenue collection systems, processes and policies monitoring mechanisms in place. The Chief Financial Officer's responsibility is to ensure that In-year monitoring and reporting are of a good quality and timeously submitted to the relevant authorities (National Treasury, 2010:32).

(g) Risk management

The Chief Financial Officer together with the senior management team should regularly monitor and assess the risk management practices in the organisation in order to ensure

continuous improvement thereof. The Chief Financial Officer must guard against the following factors prevalent in the municipal billing systems continuum: policies and appropriate procedures such as municipal billing cycles, processes and debtors, information and communication by identifying, capturing and communicating information to enable municipal officials to carry out their responsibilities, monitoring and assessing the presence and functioning of the various components as they relate to the impacts of municipal billing systems on revenue collection (National Treasury, 2010:35).

In concluding this section, budget planning, revenue management, billing and revenue collection, intergovernmental engagement on the amount due, debtors or accounts receivable, In-year monitoring and reporting and risk management are critical impetus towards the working of the municipal billing system and revenue collection.

3.6.1.6 Municipal budget and treasury offices

The budget and treasury office is an important structure to ensure that the municipal billing system and revenue collection are planned and implemented successfully. Figure 3-3 shows the structure in the financial management budget and treasury office.

Figure 3-3: Budget and treasury office NMMBM



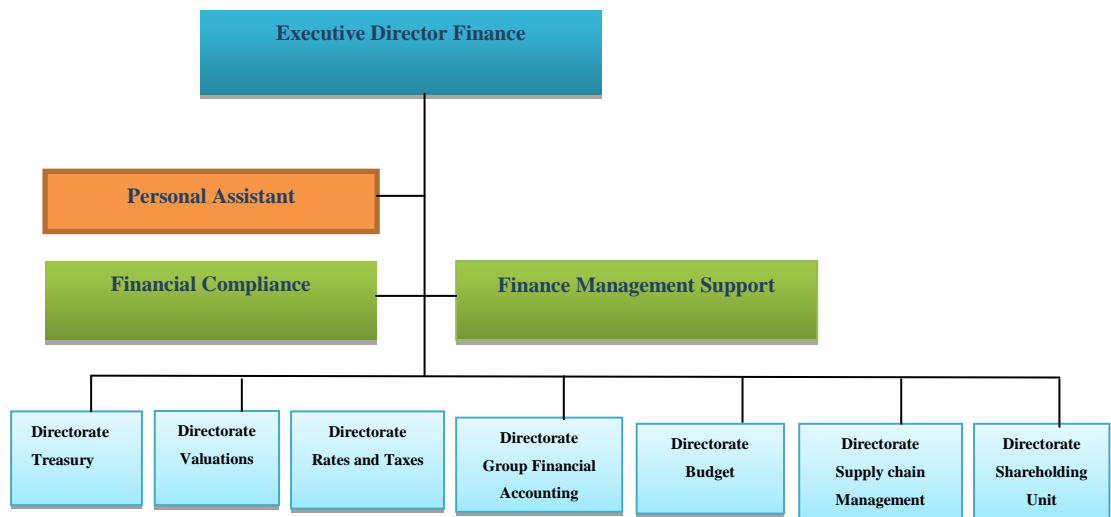
Source: Adapted from the Nelson Mandela Bay Metropolitan Municipality: Integrated development Plan, 2010.

In terms of the above structure, the budget and treasury directorate of the Nelson Mandela Bay Metropolitan Municipality is committed to its mandate to provide a comprehensive financial management service to the council and other directorates of the council. The

directorate supports the integrated development plan of the council by striving to provide a stable and sustainable financial environment from which the council can deliver services to all inhabitants of the municipality. The finance department is assigned with the following main functions: support directorate units and consolidated accounting, capital accounting and budgeting financial accounting, control and systems development, financial statements, audit responses, cash management, investment of funds, risk and asset management, subsidised housing and special funds, projects, planning and development and administrative support, performance management, metered services, rates, services, housing and miscellaneous, billing co-ordination, receipting, customer care and debtors management.

Every city must have a treasury, almost without exception headed by an officer as a treasurer. The function of the budget and treasury office is to collect the money due to the city, keep it in safe custody and pay it out in settlement of claims against the city as vouched for by warrants issued by the Chief accounting officer (Pffifner, 1940:82). According to Craythorne (2003:235), treasury control relates to the proper handling of funds, assets and property and dealing with situations where this does not happen.

Figure 3-4: Budget and treasury office COJ Metropolitan Municipality



Source: Adapted from the Departmental structure of the City of Johannesburg Annual Report 2010/11.

Figure 3-4 indicates the planning and implementation of the municipal billing system and revenue collection in the City of Johannesburg Metropolitan Municipality. It has the

following units: financial compliance, financial management support, treasury office, investor relations, valuations, rates and taxes, group financial accounting and budget office.

(a) Financial compliance

This unit is responsible for the City of Johannesburg Metropolitan Municipality's compliance with all relevant legislation, regulation, government practices and the implementation of the *Municipal Finance Management Act (56/2003)*. Compliance with its own financial strategy, financial plan and funding plan must be enforced to ensure that the financial management support unit continues to achieve clean audits.

(b) Financial management support

This unit gives strategic guidance to the City of Johannesburg Metropolitan Municipality's group Chief Financial Officer by providing efficient and effective support.

(c) Treasury office

This unit is responsible for managing centralised treasury functions. It acts as the City of Johannesburg Metropolitan Municipality's central banker, managing the primary bank accounts, borrowings, investments and financial risk management for the City of Johannesburg Metropolitan Municipality and its entities. It is also responsible for managing and co-ordinating financial planning, monitoring and reporting on expenditure trends and activities, as well as for improving compliance with legislative requirements. The following units in the budget office are essential for the planning and implementation of the municipal billing systems and revenue collection:

(d) Rates and taxes

This office deals with the critical function for developing and reviewing the City of Johannesburg Metropolitan Municipality's Rates Policy and for ensuring effective billing of rates; compliance with the *Municipal Finance Management Act (56/2003)*; and overseeing the application, monitoring, and evaluation and maintenance of uniform standards across the revenue value chain work streams.

(e) Group financial accounting

The directorate enables an effective environment to ensure compliance with acceptable financial and accounting practices; to ensure that the City of Johannesburg Metropolitan Municipality maintains an effective, efficient and transparent financial and risk management and internal control systems; to provide financial administration functions; and to provide group financial reporting.

(f) Budget office

The budget office endeavours to develop a budget that is in line with Johannesburg's developmental needs and the challenges it needs to overcome. It manages and co-ordinates financial planning and monitors expenditure. It also looks at and reports on expenditure trends and improves compliance through legislative requirements. This section discusses the municipal administration structure functions as they relate to political, municipal administration and financial management in municipal government. This section was critical in ensuring that the municipal billing systems and revenue collection are properly planned and structured accordingly in order to ensure that revenue is collected maximally.

The budget and treasury office is a strategic office towards the planning and implementation of the municipal billing system in a municipality and can contribute to the effectiveness and efficiency of the municipal billing system and revenue collection. If this office is able to harness all efforts to plan effectively, the impact of the municipal billing system on revenue collection can be enormous because there are opportunities there in the market for billing systems to be procured and implemented by municipalities.

3.7 PROFILE OF THE THREE METROPOLITAN MUNICIPALITIES

For the purposes of this section, the analysis of the profiles of the cities will assist researchers, scholars and practitioners to understand the implications that tax base data can have on the implementation of the municipal billing systems and revenue collection and if not properly input into the municipal billing system, will have an impact on revenue collection. It is therefore critical to analyse the city profiles in perspective with the knowledge of the socio-economic dynamics of the municipal administration environment. Like all businesses, in

order for the municipalities to succeed, must take cognizance of their unique external and internal environment.

Any discussion on the level of payment must be done with the understanding of consumer behaviour patterns regarding their view of the municipality. Aspects such as the local economic climate, levels of poverty and unemployment, the availability of correct and timeous information, the standard of service delivery, the collective discipline within the community and the community's ability to pay arrear debt.

The following external environment factors are important and will significantly contribute to an improvement or decline in payment levels: the local factors such as the lack of integrity of the debtor database, inadequate information technology and inappropriate policies will impact negatively on the internal environment and will perpetuate inefficient and ineffective administration. Any debt collection strategy should therefore identify, develop and deal with strategic imperatives with regard to the powers, functions and responsibilities of all stakeholders including the consumer. The strategies are the development and implementation of acceptable policies and by-laws on rates and tariffs, indigents, revenue management, political and administrative support, affordable levels of service delivery, appropriate organisational structures, accessibility to paypoints, data integrity accurate billing, payment incentives and integrated approach to client services (Fourie *et al.*, 2011:241-242). Table 3-3 illustrates the income of the three selected municipalities for the financial period 2010/11 and 2011/12.

Table 3-3: Operating budgets for the three metropolitan municipalities

Type of Service	City of Johannesburg		Nelson Mandela Bay Metropolitan Municipality		Ekurhuleni Metropolitan Municipality	
	2010/11	2011/12	2010/11	2011/12	2010/11	2011/12
R' Thousand	R'000	R'000	R'000	R'000	R'000	R'000
	Budget	Budget	Budget	Budget	Budget	Budget
Net property rates	4 769 272	5 146 044			2 527 358	2 780 093
Total penalties and interest on debtors	101 229	107 202	0	0	439 024	499 860
User charges for services	0	0	0	0	0	0
Net electricity sales	8 668 338	10 586 587	2 206 868	2 607 324	7 493 919	9 626 340
Net water sales	3 030 706	3 264 694	411 202	462 622	2 117 026	2 507 998
Net sanitation/ or solid waste sales	1 646 134	1 761 363	264 727	291 354	643 243	739 730
Net wastewater sales	0	0	0	0	655 084	554 042
Refuse	686 798	726 170	120 952	133 854	0	0
Service charges other	624 831	668 133	0	0	0	0
Rentals of facilities and equipment	372 010	184 140	18 107	19 590	41 871	45 220
Interest earned from internal investment	175 751	360 225	135 913	145 519	56 373	64 829
Interest earned from outstanding debtors	34 996	52 034	108 025	106 617	0	0
Fines	342 358	362 656	59 376	64 126	178 362	196 198
Licences and permits	0	0	6980	7 649	25 704	27 760
Agency services	408 081	430 061	1 472	1 546	149 362	164 299
Operating grant and subsidies	0	0	0	0	2 805 411	3 126 884
Capital grants					686 704	733 530
Deferred income	0	0	0	0	0	0
Transfers recognise operational	4 421 135	4 581 555	1 268 308	1 254 973	0	0
Other revenue	832 620	1 061 494	245 971	229 743	96 056	103 740
Internal charges	0	0	0	0	1 683 608	1 840 580
Gains on disposal of PPE	37 000	37 000	0	0		0
Total revenue (excluding capital transfers and contribution)	26 151 259	29 329 357	6 264 920	7 009 673	19 653 812	23 070 187
Net operating income	26 151 259	29 329 357	6 264 920	7 009 673	19 653 812	23 070 187

City of Johannesburg Metropolitan Municipality Medium Term Budget 2010/11-2012/13:42, Nelson Mandela Bay Metropolitan Municipality IDP 2006/07-2020/11-2010/11 Review- 9th edition and Ekurhuleni Metropolitan Municipality IDP. Budget, SDBIP 2010/11-2011/12.

The vastness of the number of informal dwelling households, for example, will have an impact on the indigent programme and can increase the debts owed by indigent household if

not properly managed and captured correctly in the billing system. If the potential income as derived from the tax base can be collected maximally, the selected municipalities will be able to increase their local economic growth by way of funding for the infrastructure development sustainably. In the section that follows, the profile of the three selected municipalities will be highlighted as they relate to social, economic and environmental dimensions and these three elements can determine the volume and capacity which the municipal billing system and revenue collection have.

3.7.1 City of Johannesburg Metropolitan Municipality

Johannesburg commonly referred to as: Jozi or eGoli is the largest city in South Africa and the provincial capital of Gauteng, the wealthiest province in South Africa having the largest economy of any metropolitan region in sub-Saharan Africa (City of Johannesburg Metropolitan Municipality, 2009). The city is one of the 40 largest metropolitan areas in the world, and is also the world's largest city not situated on a river, lake, or coastline. While Johannesburg is not officially one of South Africa's three capital cities, it houses the Constitutional Court South Africa's highest court. The city is the source of a large-scale gold and diamond trade, due to its location on the mineral-rich Witwatersrand range of hills.

The City of Johannesburg Metropolitan Municipality owes its location entirely to the mineral deposits which first led to the gold rush. Over the last 120 years, the City of Johannesburg Metropolitan Municipality has established itself as the financial hub of sub-Saharan Africa. It has a sophisticated economic and social infrastructure, and the road, rail and air infrastructure of the city is well developed to offer easy access to major cities in the country and on the subcontinent. The municipality covers an area of 1 644.98km² (635m²) with a density rate of 2 337.7 people per km². The rural area occupies 0.1% of the total area while the urban area is 99.9% of the total space.

The City of Johannesburg Metropolitan Municipality population stands at 3 845 459. The municipality has a total of 1 227 153 households with an average of 3.1 people per household. The poor households have been recorded as 557 794, while the poverty rate is 45.45%. The number of households is growing at an average rate of 2.46% per annum. This growth is driven by rural to urban and cross-border migration and many newcomers fall into of poverty, either in informal settlements, in and around hostels, or in decaying buildings in the inner city. The monthly income inclusive of social grants and percentage of population is as

follows: a total of 1 446 734 households or 37.6% have been recorded as people with no income. People who earn an annual income of R204 801 or more are indicated as 8 110 households or 0.2% of the population within the Johannesburg metropolitan municipality and the lowest earners stand at 135 041 households or 3.5%, earning from R1 up to 400 per month.

Houses on separate stands have been recorded as 644 209 or 52.5%, the number of informal dwelling such as shacks in backyards is 103 101 or 8.4%, the number of informal dwelling with a shack not in back yards is 127 137 or 10.4%, the number of cottages on shared property is 21 681 or 1.8%, other structures are 1 792 households or 0.1%, the number of households or flats or room in back yard is 90 935 or 7.4%, while the number of traditional dwelling is 4 380 or 0.4%.

The City of Johannesburg Metropolitan Municipality is a divided city whereby the poor mostly live in the southern suburbs or on the periphery of the far north and the middle class live largely in the suburbs of the central and northern parts. Around 20% of the city population lives in abject poverty in informal settlements that lack proper roads, electricity, or any other kind of direct municipal service. Another 40% of the population have insufficient municipal housing.

The City of Johannesburg Metropolitan Municipality is the largest single metropolitan contributor to national economic growth and over the years, in successive waves of development and decline. The City of Johannesburg Metropolitan Municipality's economy has moved away from mining and industrial production and is currently dominated by financial and business services, retail and wholesale trade, community and social services and manufacturing. The results of the economic growth are yet to be shared equally, and unemployment remains unacceptably high. Upward social mobility is still limited.

A poorly functioning property market in many parts of the city, notably the townships, means people are unable to realise wealth from property to secure capital for education, business investments, and thereby move out of poverty. Unequal access to skills is needed to participate in an economy dominated by finance, business services and trade. Urban sprawl and low densification aptly describe the way in which Johannesburg has developed and grown over the past 125 years. As a result of neighbourhoods and communities built far apart from one another, people have to travel long distances to work and it is expensive to supply goods and services including electricity, water, sanitation and refuse removal to customers spread over a large area. This urban sprawl also requires an expensive road network and makes the

economic provision of public transport very difficult (City of Johannesburg Growth and Development Strategy, 2009).

3.7.2 Nelson Mandela Bay Metropolitan Municipality

According to the Nelson Mandela Bay Metropolitan Municipality's integrated development plan (2010/11), small groups of San aboriginal hunter-gatherers were the earliest inhabitants of the area around Algoa Bay and the San left behind an enduring legacy of thousands of rock paintings and superbly crafted stone implements. Other early residents were nomadic Khoikhoi pastoralists who lived in the area around the Coega River. By the beginning of the twentieth century, Port Elizabeth was renowned for its wool washeries, warehouses, canning factories and tanneries. City status was granted in 1913 and much evidence of its European heritage remains: many buildings displaying intricate stonework, wrought-iron work and beautiful stained glass lend elegance and grace to a city known as 'the friendly city'. By 1926, the motor industry had become the major area of growth. The demand for land and labour spilled over into the adjoining areas of Despatch and Uitenhage. In 1993, Port Elizabeth became the first city in South Africa with a fully democratic, non-racial city council.

In 2001, the Nelson Mandela Bay Metropolitan Municipality was formed as an administrative area covering Port Elizabeth, and incorporated the neighbouring towns of Uitenhage and Despatch and the surrounding agricultural areas. The municipality covers 1 958.91km² with a density of 551.5 people per km². The population of the Nelson Mandela Bay Metropolitan Municipality is estimated at just over one million, and it is a relatively youthful population. This means that education and job creation require urgent attention. The total population of the Nelson Mandela Bay Metropolitan Municipality is 1 080 306 people and 193 343 households. The poor households are estimated at 66 289 and the poverty rate is 34.29%. The rural area occupies 66.3% whereas the urban space is 33.7% and the farms including subdivisions cover 2 580 with an area of 1 299km². The manufacturing industry is the highest employer in the municipality with 8.3% of labour force, followed by private households at 7.4%, community/social and personal services at 6.0%, wholesale at 5.3%, financial, insurance and real estate 4.2% while agriculture is at 1.1%.

The Nelson Mandela Bay Metropolitan Municipality is a major transport hub boasting a well-equipped, modern airport and harbour linking southern Africa with other national and international destinations. There are regular air passenger and cargo services to other major centres in South Africa. The Coega Industrial Zone (IDZ) has been the largest single

infrastructure development project in South Africa since 1994. The construction of the deepwater port of Ngqura 20km east of Port Elizabeth is the infrastructure in point. The purpose-built industrial sites are linked to international ports and airports and offer an integrated service package. Skilled labour is available nearby, making Coega an attractive site for metallurgical and automotive industries.

The Nelson Mandela Bay Metropolitan Municipality is the economic powerhouse of the Eastern Cape Province, with a particularly large manufacturing sector that accounts for over a one third of the private population. It is the manufacturing sector that represents the most important potential investment, economic growth and employment creation in the province, particularly in terms of export-orientated production. The leading industry in the manufacturing sector is the motor vehicle and motor component manufacturers.

3.7.3 Ekurhuleni Metropolitan Municipality

The name *Ekurhuleni* is a Tsonga word, meaning ‘place of peace’. The choice of a Tsonga name reflects the diversity of the Ekurhuleni Metropolitan Municipality. It was in Kempton Park, in Ekurhuleni, that the CODESA negotiations for a new, democratic South Africa, took place between 1991 and 1993. Ekurhuleni Metropolitan Municipality was established on 5 December 2000 when 11 administrations and towns in what was formerly known as the East Rand were amalgamated (Ekurhuleni Metropolitan Municipality, 2010). The towns had developed around mines whose charters dated back a century. Ekurhuleni is the fourth largest metropolitan municipality and consists of Alberton, Benoni, Boksburg, Brakpan, Germiston, Kempton Park, Nigel and Khayalami.

The Ekurhuleni Metropolitan Municipality population stands at 2 958 260. The Ekurhuleni Metropolitan Municipality occupies an area space of 1 975.26km² with a density of 1 497.7 km² per person. The municipality has a total of 886 463 households with an average of 3.3 people per household. The number of poor households is estimated at 242 359 and the poverty rate is 27.34%. The area type consists of rural at 17.8% and urban at 82.2%. The number of farms including sub-divisions is 5 560, occupying a space of 352km². The highest industry employment is located in electricity/gas/water supply at 11.4%, private households and other at 9.4%, followed by the wholesale/Retail trade at 7.4%, financial/insurance/real estate and community/social/personal services at 6.6% and 6.5% respectively. Construction is at 2.8%, while agriculture and mining at 1.2% and 0.8% respectively.

Originally, a rich gold mining region, Ekurhuleni Metropolitan Municipality is situated in the manufacturing heartland of South Africa. There are about 8 000 big businesses, 5 000 industrial support enterprises and almost 40 000 small, medium and microenterprises, making it responsible for approximately 22% of the gross geographic product of Gauteng, sub-Saharan Africa's most economically powerful region. It accounts for 75% of the country's spending power, and contributes 7.4% of the nation's productivity. It has a network of roads, airports, railway lines, electricity grids and telecommunications that rivals that of many developed countries. OR Tambo International Airport (ORTIA), Africa's busiest airport, is the point of entry for most foreign visitors. The well-developed infrastructure supports an established industrial and commercial complex, making Ekurhuleni the industrial hub of Gauteng and the transportation hub of South Africa.

The manufacturing sector is particularly strong in Ekurhuleni, where it accounts for 28% of the total economic output. Many areas of the city have poor transportation linkages. High levels of congestion are experienced on the freeways and large parts of the planned provincial road system have yet to be built. There is a lack of integrated public transport. Almost one quarter of municipal roads is still gravel and the rail network is underutilised. Large areas of the natural environment are degraded. Degradation has occurred due to mining, urbanisation and industrialisation. Environmental problems include underlying dolomite, uncontrolled informal settlements and pollution from, inter alia, mining and industry. The local economy is dominated by the manufacturing sector.

Unemployment is at about 40% and policies to promote labour absorption and job creation are needed to resolve this. Employment is largely concentrated in elementary jobs with 19% of employees in the manufacturing sector. Informal employment makes up 10% to 20% of total employment. With almost one third of the population living in poverty, levels of poverty and unemployment in Ekurhuleni Metropolitan Municipality are unacceptable high. The rural-to-urban migration of people in search of jobs is a key challenge, resulting in many informal settlements and informal trading. Many people live in overcrowded informal settlements, which have little or no engineering or social infrastructure. There are currently 134 000 shacks in informal settlements and 36 000 backyard shacks (Ekurhuleni Metropolitan Municipality, 2010:2-224).

In concluding this section, the profiles gave a picture in terms of the economic growth imperatives of the three Metropolitan Municipalities. The imperatives can be helpful in terms of the planning and implementation of the municipal billing system and revenue collection in

the three Metropolitan Municipalities. The pertinent information in the above analysis relates to financials, unemployment, job creation and other socio-economic data, which are critical for this research.

3.8 ELEMENTS OF THE MUNICIPAL BILLING SYSTEMS

The impact of the municipal billing system on revenue collection, the spheres of government and sector departments as a collective can play a critical role to ensure that the principles of the municipal billing system impact positively on revenue collection as it was indicated above that there are various forums which meet to discuss government planning and the implementation of various government programmes. Management and user structures governing the municipal billing systems and those principles are referred to as doctrines of the municipal billing systems.

According to The Gale Group, Inc. (2008), *legally*, a doctrine is a framework, set of rules, procedural steps, or test, often established through precedent in the common law, through which judgments can be *determined in a given legal case*. A doctrine comes about when a judge makes a ruling where a process is outlined and applied, and allows for it to be equally applied to like cases. When enough judges make use of the process, it becomes established, as the *de facto* method of deciding like situations.

Before the structures are outlined, it is imperative to state that the major goal of any municipality's revenue collection operation is to collect what is owed by improving the collection of taxes and other revenues, increasing the amount of cash available for investment and assuring accountability of related objectives. The goals and objectives generally are achieved through improvements in the efficiency of the collection process and are commonly sought after by municipalities. The municipal billing system if properly planned through this doctrine can enhance the revenue collections in municipalities and thus improve infrastructure development. These principles of the municipal billing systems and revenue collection continuum need to be pursued to achieve a positive impact on revenue collection. Effective metering, regular and accurate billing must form part of that planning (*White Paper on Local Government*, 1998:117-118).

According to Allan (1993:25), the assessment and billing of taxes and other revenue are the two most important tasks faced by local governments in their daily operations. The inability

of a municipality to successfully accomplish these tasks can reduce the amount of revenue available to finance its activities and provide services to residents in an orderly manner. There are a number of system processes that need to be adhered to with regard to the finalisation of each billing cycle (USAID, 2005:14-17 and National Treasury, 2010:32-33).

(a) Master data

For the purposes of accurate billing information, the master data needs to be entered only once when the consumer connection is added into the database. This data is relatively static in nature and does not change periodically. Various data items which need to be stored are consumer number, name of consumer, address, type of use, type of consumer, tap size, data of connection, details of feeder line, locality, house number, water connection number, number of taps, number of families, meter make, meter number, first reading, ownership of meter and deposit amount.

(b) Data for each billing cycle

Data for each billing cycle will be entered for every consumer for every cycle and will be used to calculate the demand of that billing cycle (Bell, 2005:182). Various data items which need to be stored are consumer number, data of meter reading or period for which billed status of the connection and any changes in master data.

(c) Receipt data

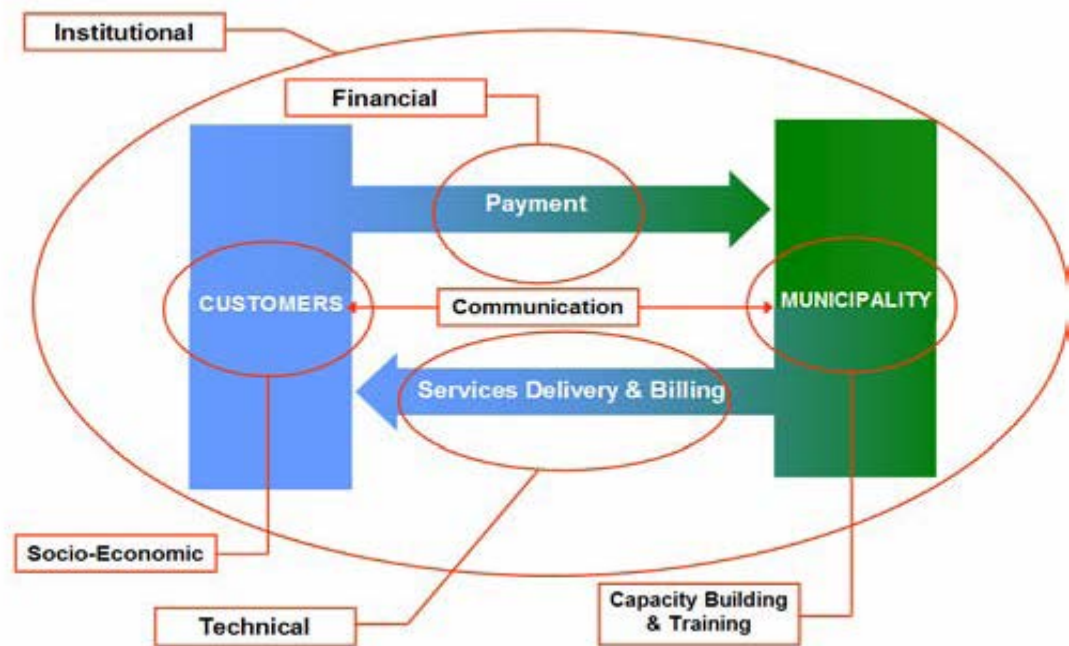
Receipt data is the data related to the payments made by the consumer against the bill issued. This data is entered on a daily basis irrespective of the billing frequency. Various data items which need to be stored are consumer number, date of receipt, receipt number, details of the collection centre and cash or cheque. If cheque: cheque number, bank branch, part payment or adhoc payment or deposit and account head for posting. If incorrectly entered, the municipal billing system can impact negatively on revenue collection and the consumers' records corrupted and leading to disputes.

(d) Information Technology (IT) security

IT security has an impact on the municipal billing system and therefore on revenue collection. IT security plays a pivotal role in terms of securing the municipal billing system as an application and the potential revenue to be collected. The municipal billing system has to be

tightly secured to prevent external users accessing the information of taxpayers. Many information policies in municipalities fail because they do not consider the importance of people as a key part of policy and it is not enough to focus on information technology itself (Wikipedia 2011). To this end, procedures should be created that respect employees as they interact with any part of the information system they are using.

Figure 3-5: Municipal billing continuum model



Source: Adapted from USAID, 2005:4. Guide to enhancing municipal revenue.

(e) A sound communication strategy is a critical element of building local government long-term sustainability as it relates to the municipal billing system and its impact on revenue collection.

(f) Accurate billing and billing integrity for services are a critical element of the municipal revenue management business model. If the customer information and billing information are incorrect, the municipality has no basis to effectively collect revenue. A substantial portion of any local municipality's revenue is derived from the delivery of services. In order to facilitate this revenue generation, the municipality needs to bill its customers on a regular basis and ensure that the bills are accurate as far as possible (USAID,

2005:14-16). In the municipal billing continuum, the billing integrity can be improved and enhanced using controls such as preventive and detective controls where the preventive controls relate to the system processes and by definition are designed to prevent errors occurring. The controls are vitally important to an efficient billing process, as preventing errors before they occur is less time-consuming than making errors and then having to go back and correct these errors. It stands to reason that if fewer mistakes need to be rectified, therefore fewer staff is required. In the municipal billing system and revenue collection continuum, credit control is an integral part of any successful administrative function.

(vii) A billing process is an interaction between a municipality and ratepayer. The entirety of this interaction is known as the billing cycle sometimes referred to as the revenue cycle management. The relationship between the municipality and the taxpayer is that of municipal services and taxpaying. The interaction begins with taxpayer buying services whereby the municipality will typically create or update the taxpayer's billing record. For better administrative control over the complete billing process, the city or town is divided into various zones or sections geographically or in terms of the distribution networks or service reservoir-wise.

It was observed that the three cities already have ward numbers or localities which can be used as they are but if the billing is in terms of the distribution network, the billing system can provide very important feedback as far as water or revenue losses are concerned. These zones are further divided into smaller area or wards for better control. The person responsible for gathering data from these areas is the meter reader or ward clerk. In the case of a metered system, the number of consumers who can be handled by one meter reader will depend on the geographical spread of the area and other office jobs to be performed by the person. The prime responsibility of the meter reader or meter clerk will be to gather all the data related to the water connections in the given area and to collect all the data related to new connections or disconnection or any change in the category.

The billing section also carries out the accounting related to these receipts such as the posting of receipts, generation of demand registers or ledgers on a periodic basis. The complete accounting related to the billing can be more efficiently carried out by the computerised system. The frequency of billing governs the cash flow of the water billing system and thus more frequency means a regular cash flow. The frequency of billing depends mainly on the type of system used. For a non-metered system, the billing could be quarterly and for the metered system, the billing could be bi-monthly. The only other factor which can be

considered in this respect is the availability of manpower for the billing process and the cost of issuing bills in one complete billing cycle. For a water billing system, which is complex, repetitive and has voluminous data, computerisation is recommended.

Computerisation overcomes many of the defects in the manual system; it is fast and gives a control on the system. The service connection process describes activity flow from the identification of a need for a service connection to a point when the customer is effectively connected to the water supply system and his or her account updated in the billing system. The process begins with a customer completing an application form. The installation of a meter is the first step in the creation of a debtor's account. The process flow provides the basis for the billing and collection system design and system requirements. The process describes activity flow from a need for a service to the point of disposal of obsolete meters (Fourie, Opperman and Scott, 2006:173-176).

The municipality must put systems in place to regularly "test" the reliability and accuracy of information supplied by external service providers (National Treasury, 2010:33). The process describes the activity flow from the first meter reading after installation to the production of the bill. The process involves allocating reading routes to all meters and the meter readers will each be allocated reading routes. A debtors' system is designed to keep a record of all amounts owing by consumers, ratepayers and any other debtor, and provides the link between consumption and usage of services and payment or non-payment for such services.

(viii) The revenue collections and payment systems describe the activity flow from receipt of money by the cashier or electronic payment, printed bills to receiving and updating of customer payments in the billing system. The revenue collection will depend on the integrity of the metered service delivery and accurate billing. This critical element includes the collection of revenue, customer management, debt and credit management and indigent registration and management. Once bills have been delivered, customers are informed of the need to pay the bills and bills can be paid either at the utility offices or at any of the authorised banks. To this end, a lack of effective management or poor management is the single largest factor which causes the greatest negative impact on municipal billing systems.

The payment of bills by consumers can be accepted at any one or more of the following: counters at various offices of the municipality, various branches of bank or banks authorised for accepting payments, door to door or on the spot recovery by concerned person or team, electronic fund transfer through various banks offering such option or directly, by cheque

through post or drop boxes, online payments and automatic kiosk. The collection counter or bank or person must send the receipt details to the billing section periodically preferably on daily basis and then entered into the system and the totals cross-checked.

Each of the above highlighted performance areas will contribute to the implementation of a successful municipal billing system and revenue enhancement strategy (USAID, 2005:3-5). To this end, neglecting the above elements will negatively impact the successful implementation of a municipal billing systems and revenue collection and enhancement strategy.

Municipal billing and revenue management systems are important aspects of any municipality system as they govern the financial aspect and besides fixing a tariff structure, billing and collection of revenue play an important part in this regard. The various stages in the cycle of the billing process are data gathering-meter reading in case of metered billing, generation of bill based on this data, distribution of bill to consumer, payment of the bill by the consumer, sending the receipt details to the billing section and related accounting. Irrespective of the basis of the billing metered or unmetered, the billing system needs three major databases (Ministry of urban development India, 2005:324-325).

In concluding this section on the impact of municipal billing system elements, billing and revenue collections of any municipality require well-structured interventions in the management of municipal billing systems and revenue collections. Development and enforcement of municipal procedures and policies, processes, staff attitude, performance improvement programming and block mapping and geographic information system are also critical imperatives for the improvement of the municipal billing systems and revenue collection (Worldbank, 2009:20-29).

3.9 CONCLUSION

It is imperative that proper municipal financial management must adequately control the total level of revenue and expenditure and appropriately allocate municipal resources. This must be supported by the quality of the municipal billing system as planned and implemented by the municipality. Municipal financial administration and the structures in the context of the spheres of government are therefore critical.

The study analysed the local government spheres that can exert support to local government municipal billing systems and revenue collection and stated that the aforementioned must be core to planning and the implementing government programmes and systems. The local government spheres can achieve this through the roles and responsibilities accorded by the Acts of Parliament and the strategic environment in which these spheres find themselves ensuring that sound financial management and good governance are applied to local government. To this end, the analysis also related to financial management accounting standards, intergovernmental fiscal and financial relations in terms of structures namely: budget council, local government budget forum, equitable share of vertical and horizontal revenue, local government framework, and redistribution of revenue, fiscal accountability and decentralisation.

The key local government systems are imperative in that they ensure that financial reporting mechanisms are there for sound financial policy and management in terms of information which needs to be input into the municipal billing systems. The municipal structures namely: the council, mayor, municipal manager, executive committee, ward and proportional representative councillors, Chief Financial Officer, general municipal management, budget and treasury office, in the municipal government and administration, are critical in terms of ensuring and providing leadership for best financial management practice. Without the municipal leadership playing a good and transparent governance role, municipal billing systems will continue to impact negatively on revenue collection.

The profiles of the three metropolitan municipalities provided some background regarding the data such as socio-economic profiles to be input into the municipal billing systems, which can be used for planning and implementation so that the billing systems impact positively on revenue collection. The structures of the municipal billing systems if planned and implemented effectively in terms of billing accuracy, integrity of processes, cycles, metering operations and management, IT security, billing procedures, communication with taxpayers are of paramount importance to the success of the municipal billing system and revenue collection in the three metropolitan municipalities. The chapter that follows will focus attention on the analysis of sources of revenue in the three selected metropolitan municipalities.

CHAPTER 4 : SOURCES OF REVENUE: AN ANALYSIS OF THE THREE METROPOLITAN MUNICIPALITIES

4.1 INTRODUCTION

The previous chapter provided an analysis of the municipal financial administration and structures regarding the spheres of government and their roles and responsibilities. In this chapter the generation of revenue sources of municipalities will be analysed. The revenue principles regarding vertical equity, horizontal equity, ability to pay, economic principle, financial, efficiency, simplicity and enforceability, the types of sources such as property rates, service charges, other charges, transfer payments in the form of conditional and unconditional grants and municipal financial loans or borrowing will be evaluated as they can be impacted negatively or positively by the planning and implementation of the municipal billing system.

The analysis of the sources of revenue performance regarding revenue collection is central to this research and as such it will be critical to analyse the performance of the municipal sources of revenue per type. The sources of revenue in the three cities also play an important role in this research and it will be imperative to outline the revenue collection of the City of Johannesburg, Nelson Mandela Bay and the Ekurhuleni metropolitan municipalities in order to understand the performance of in each case. The information systems as they relate to the municipal billing systems, the billing systems implementation in the case study cities of Ekurhuleni, City of Johannesburg and the Nelson Mandela Bay metropolitan municipalities will also be examined.

4.2 SOURCES OF REVENUE

The municipal billing system and revenue collection are imperative in the running of the municipal finances and sustainability (Dirie, 2008:259). According to Kingdom (1991:178), the importance of local taxation goes beyond the funding of local services as it is of deep constitutional significance giving autonomy from the centre. Without this, local democracy can be nothing but unoccupied pretense.

Most councillors and members of the community know what municipal services they would like to have in their area. As every financial transaction must be publicly accountable, it is understandable that all financial activities which have to be undertaken are subject to strict directives. Revenue income covers the day-to-day costs of running existing services. The money comes from three main sources, namely government grants, local rates and other local sources. Capital income covers the provision that public buildings must last a long time (Allsop, 1976:43).

Thornhill (1998:65) states that, in the public sector, the financial system works on the principle that the determination of expenditure is both logically and chronologically, prior to the consideration of the means of raising revenue to meet that expenditure. Government then provides services and uses its power to levy taxes to secure the revenue necessary to meet the costs involved. Autonomous revenue collections have recently become a popular organisational reform to improve collection in the developing countries. The success of the autonomous revenue authorities is commonly contributed to autonomy, which reduces political interference and increases financial independence and managerial freedom. Over the past few decades, autonomous revenue authorities have become a popular organisational reform to improve revenue collection in developing countries. This country can explore such alternative strategies to collect and exploit more revenue.

4.2.1 Revenue principles

Municipal revenue has its origins in the system of local governance and municipal administration in so far as the financing of municipal services are concerned. According to Upson (1929:76), the large and rapidly increasing list of public activities testifies that certain functions can be performed more effectively and with less expense by organised government than by the individual citizen. To create an excellent system of taxation, it is necessary to first establish a set of high-standard principles for taxation and little attention has been paid by governing bodies to establish such important principles.

In practical terms, each municipality treats as revenue the income that can be used legally to meet the kinds of current operations, usually in conformance with the definition cited, but sometimes including the returns from the sale of assets, transfers and loans. The imperative that municipalities collect all revenues due for the services they provide and implement credit control measures to govern the process of collection is covered in several pieces of legislation. According to Kayuza (2006:158-162), prior to paying the assessed tax amount to

the rating authority, a property owner must receive a tax bill requiring him to pay the stated amount within a prescribed period of time. It is the duty of the taxing authority to ensure that the taxpayer is served with a tax demand bill. The billing process therefore involves the preparation of tax demand notices and the sending of these to property owners.

According to Mikesell (2003:392), property within the scope of taxation may be either real or personal. Real property means real estate realty, or land and improvements on that land. Property taxes vary widely in the extent to which they apply to these properties. Most tax rates change only with special legislative action because they are the portion of the fiscal system that is most strictly incremental, in the sense of small changes made to a permanent base. An important characteristic of the services provided by a municipality is that in many cases, the consumption of a service by an individual cannot be measured.

According to Craythorne (2003:220), the right and the power to impose property rates are guaranteed by the *Constitution*. Revenue comes from various sources such as fees, charges, tariffs and the local government share of national revenue. Rates should be seen as a top up tax, which is a tax which closes the gap between revenue and expenditure. In terms of the ability-to-pay principle, the beneficiaries pay taxes according to their income-generating capacity (Gildenhuys, 1997:225-226). There are basic concepts by which a local government is meant to be guided in designing and implementing an equitable taxation regime. Pricing of the service should pursue two main objectives, namely managing demand and recovering costs. To this end, municipalities set tariff levels and structures in accordance with sound economic, financial, efficiency, equity and simplicity principles (Gildenhuys, 2004:250; Kingdom and Mistra, 2008:18-19 and National Treasury, 2011a:39).

(a) Vertical equity

The burden of taxation should be shared in accordance with taxpayers' respective ability to pay, sometimes referred to as the ability-to-pay principle. The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state. It also concerns the relationships between the relative tax burdens paid by individuals with different capabilities to pay taxes. This principle deals with the subject of dignity and justice and fairness in taxation and there is dignity in the paying of tax by the poor. While the tariff should not discriminate among customers and should preferably

be uniform for all categories of customers, any subsidy programme needs to be targeted especially for the indigent's categories.

(b) Horizontal equity

Taxpayers in the same economic circumstances should receive equivalent treatment. In the context of international company taxation, equity relates mainly to the fair allocation of the tax base between states where international companies operate. The tax which each individual is bound to pay ought to be certain, and not arbitrary. The "Adam Smith's tax maxim" requires a very simple tax rate that applies to any and all economic transactions without exception, so that everybody knows what the tax rate is and that there is certainty of the tax, and very importantly, that there shall be no arbitrary exceptions to the tax no matter how persuasively any proposals for exceptions may be presented by special interests and by well-meaning political leanings.

(c) Ability-to-pay principle

The ability-to-pay principle states that taxes should be distributed among taxpayers in relation to their financial capacity and their ability to pay a certain amount of tax (Gildenhuys, 2004: 250). This principle captures the idea that beneficiaries pay taxes according to their income-generating capacity, and in this way greater social equity will be fostered with a differentiation between horizontal and vertical equity principles (*White Paper on Local Government*, 1998:117).

(d) Economic principle

This tariff should be set, in reference to the long-run marginal cost, of for example water, to maximize the user and supplier surpluses and limit, water consumption to what is strictly necessary and wastewater disposal to what is environmentally sustainable.

(e) Financial principle

To allow access to long-term debt financing, the tariff should be set to recover operations and Maintenance costs, depreciate fixed assets and yield a return on net fixed assets in operation sufficient to service the long-term debt and remunerate the equity invested. In case of

discrepancy between the economic and the financial principles, the tariff should be set to allow the municipality meeting its financial obligations.

(f) Efficiency principle

To avoid passing the cost of inefficiencies of municipalities to customers, the tariff should be set in reference to efficient water and sanitation services operations, with operating expenses calculated using good practice performance indicators as a basis and infrastructure development plans corresponding to the least-cost solution.

(g) Simplicity principle

To limit the risks of consumption distortion and billing fraud, the tariff should, ideally, be uniform. Politically, a “lifeline” tariff is proposed as follows: try to cover efficient operations and maintenance costs to create an incentive to financially responsible municipalities to serve all categories of customers and have an upper consumption limit that is sufficient for basic needs.

(h) Enforceability

The rules of a tax base must be easy to enforce as an unenforceable system is unlikely to be either equitable or neutral. The revenue principles can have serious ramifications during the implementation of the municipal billing systems if not properly planned for, and in the end, can affect revenue collection because the system will be loaded with information which has not been properly configured. The system will then store incorrect and inaccurate data, which can over-or understate the revenue collection of a municipality.

4.2.2 Sources of revenue

The municipal billing systems do not operate in a vacuum as there are various service accounts which are input into the billing systems. The user accounts come from the property taxes, user service charges and other income components which generate revenue for municipalities. These accounts for the sources of revenue have to be managed in such a way that the ratepayers would easily pay when the bills are issued to them. For the purposes of this section, it will be imperative to focus on the sources of income, which can be impacted by clean, correct, accurate or inaccurate and or incorrect bills. Municipal billing systems have a

direct impact on municipal revenue collection through their policies on property valuation, user charge and collection levies. This result in intended costs, which are the actual payments to municipalities for services, but also the unintended costs, including the time and effort required for tax administration.

4.2.2.1 Property rates

Rates are the property taxes that the municipality can raise from all people and businesses that own fixed property, land and buildings in the municipal area, based on the estimated value of that property. According to Craythorne (2003:45) and Gildenhuis (2004:260), all people and businesses who own fixed property such as land, houses, factories, and office blocks in the municipal area are charged property rates, which are a yearly tax based on the value of each property.

4.2.2.2 Levies and service charges

A municipality is expected to recover money for services it provides to citizens (National Treasury, 2011a:40 and Marlin, 1984:3). *The Municipal Fiscal Powers and Functions Act* (12/2007) regulates surcharges and taxes and other property rates (National Treasury, 2011a:42). Levies and user charges are directly impacted by the municipal billing systems as they relate to metering data input into the system and to this end, the data should be free from errors, inaccuracies and incorrectness so that once the bills for services rendered are issued to the customers, there would be no complaints or protests against such bills.

4.2.2.3 Other revenue sources

These are classified as fines namely traffic fines and late library book fines, penalties for overdue payment of service charges. These fines are another source of income or revenue, while at the same time motivating users of services to have a culture of obeying democratic laws, rules and deadlines. It must be indicated that municipalities collect revenue as penalties for by-law contraventions. These sources, while a much smaller than other sources, are still significant as in most instances they contribute to the pool of revenue that the municipality can use for redistributive and local economic development purposes. Although this research has not gone to the extent of determining other revenue source cost-benefits, invariably, if

they were collected as standalone revenue, they would be costing the municipality a lot with regard to administrative costs and other related operational costs.

4.2.2.4 Unconditional grants

The vertical division of nationally collected revenue determines the pool of funds to be transferred to the local government as unconditional grants. This transfer is intended to balance the unequal distribution of fiscal capacity of government and municipalities (National Treasury, 2011a:43).

4.2.2.5 Conditional grants

According to the National Treasury (2011a:55-56), direct conditional grants are transfers that municipalities may only spend on particular purposes as set out in the conditional grant frameworks. Collectively, these grants are worth almost as much as equitable share transfers. The biggest conditional grant is the municipal infrastructure grant (MIG), which provides funding for municipal infrastructure, principally for extending access to water and sanitation to poor households.

4.2.2.6 Municipal borrowing

The National Treasury (2011a:44) states that municipalities may borrow funds from the financial markets to finance part of the economic infrastructure portion of their capital budget. Given that the national government does not guarantee municipal borrowing, a municipality's capacity to borrow is a function of sound financial management, sound own revenue management and choice of infrastructure projects. According to Craythorne (2003:266), municipal capital financing consists of external loans, internal loans, contributions from revenue, government grants, donations and public contribution as well as public and private partnerships.

It should be stated that the data input into the service accounts such as property rates, water and electricity, levies, transfers and borrowings has to be accurate because if input incorrectly, it will have an impact on the bills to be issued, transfers will be wrong and the borrowing data will also reflect information which can affect the interest charged unnecessarily and the terms of loans can also be affected

4.3 ANALYSIS OF THE MUNICIPAL INCOME

The diagrammatical presentations that follow illustrate the impact of the municipal billing system on revenue collection. In certain cases, it shows that revenue is increasing and in others decreasing. This can be attributed mainly to the consumer confidence on the state of the municipal billing system and metering operations of the municipalities. According to National Treasury (2011a:62), property rates revenue showed a steady growth between 2006/07 and 2009/10 due to, among others, the fact that municipalities weathered the impact of the economic recession well and that members of the public responded well with regard to the payment for those services. Proper and better planning for municipal billing systems and revenue collections in municipalities, is important

The National Treasury, (2011a:60) states that the rate of growth in service charge revenues increased to 18.6%, reflecting the impact of higher electricity prices and the pressure on municipalities to implement cost-reflective tariffs for all trading services. Revenues from service charges are the largest source of municipal revenue.

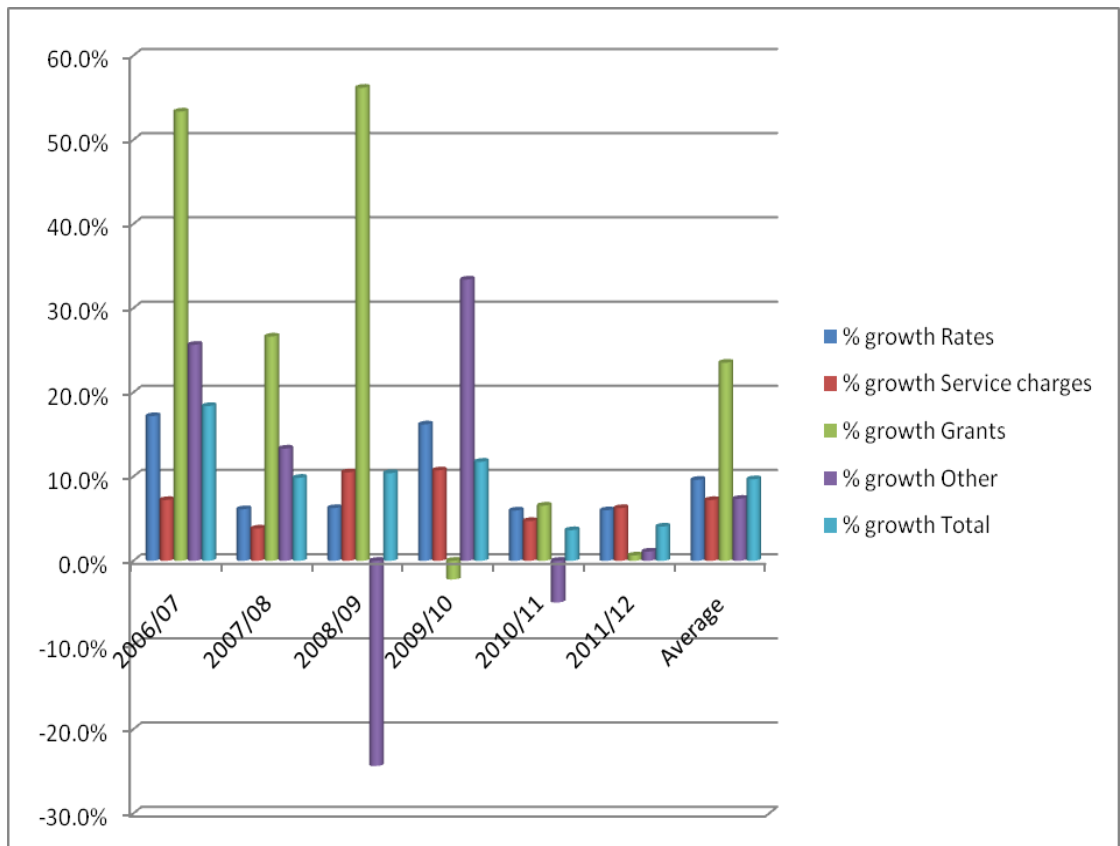
The rapid increases in bulk tariffs squeezed these surpluses' impact on revenue from service charges. This was due mainly to the fact that municipalities sought to absorb some of the increases, and because the higher prices led to increasing bad debts and inducing customers to consume less. It is critical to indicate that there is a need for norms and standards relating to surcharges on these municipal services, so that the 'surplus share' the municipalities rely on to subsidise other services can be made transparent and can be protected. The process of explicitly ring-fencing municipalities' trading services will also help to protect this 'surplus share.

4.3.1 Own income

According to the National Treasury (2011a:51), municipalities' own revenues are also growing strongly, particularly service charges which are budgeted to increase by 18.6% per year between 2010/11 and 2012/13 and thus municipal revenues held up well during the recession. Due the world-wide financial state, consumer confidence in municipal bills contributed to the increase of outstanding consumer debts, but at a slower rate than the growth in own revenues. Figure 4-1 and Table 4-1 below show that total operating revenue grew by 17.5% between 2006/07 and 2009/10. This was primarily driven by very rapid growth in 'transfers recognised namely operational' i.e. the equitable share, RSC replacement grant and

operating conditional grants, and growth in service charge revenues, particularly related to electricity (National Treasury, 2011a:60).

Figure 4-1: Comparative figures for grants and revenue



Source: National Treasury. 2011a:61-62. 2011 Local Government budgets and expenditure review.

The very rapid growth in transfers results in this revenue source’s share of total revenue increasing from 26.6% in 2006/07 to 32.6% in 2009/10. As a result, other revenue sources’ shares of total revenue decline. This trend changes significantly after 2009/10, with the share of revenues from service charges increasing from 41% in 2009/10 to 55% in 2012/13. Revenue rose in that property rates grew by R7.5 billion or 12% between 2006/07 and 2009/10. Revenue from property rates held up well during the economic recession (National Treasury, 2011a:62). Tables 4-1 and 4-2 that follow show how the national grants were shared between the different spheres of government.

Table 4-1: Municipal operating revenue 2006/07-2012/13

Municipal operating Revenue 2006-07-2012-13									
R million	2006/07 2007/08 2008/09			2009/10 Estimate	2010/11 2011/-12 2012/13			% of	
	Outcome				Medium - Term Estimates			Annual Growth	
								2006/07-2009/10	2009/10-2012/13
Operating Revenue									
Property Rates	18737	21451	22305	26294	30702	32599	35186	12.00%	10.20%
Property rates penalties and collection	-	-	-	-	579	606	637	-	-
Service charge	45553	49968	58286	72255	91191	102703	120679	16.60%	18.60%
Service charge electricity revenue	-	-	-	-	58978	68916	84172	-	-
Service charge water revenue	-	-	-	-	17676	18633	20223	-	-
Service charge sanitation revenue	-	-	-	-	7334	7719	8407	-	-
Service charge refuse revenue	-	-	-	-	4747	5042	5542	-	-
Service charge other revenue	-	-	-	-	2456	2393	2334	-	-
Rental of facilities and equipment	-	-	-	-	1635	1443	1510	-	-
Interest earned external investment	3217	3998	4504	2829	1927	1927	2013	-42.20%	-10.70%
Interest earned outstanding debtors	-	-	-	-	2127	2189	2362	-	-
Dividend received	-	-	-	-	3	8	9	-	-
Fines	-	-	-	-	1430	1492	1675	-	-
Licence and permit	-	-	-	-	600	536	554	-	-
Agency services	-	-	-	-	1327	1375	1477	-	-
Transfers operational recognised-	28970	39322	49519	57474	39476	39819	42845	25.70%	-9.30%
Other revenue	12303	12770	14866	17490	9592	9477	10091	12.40%	-16.80%
Gains on disposal of PEE	-	-	-	-	593	278	265	-	-
Total revenue	108781	127508	149480	176342	181181	194453	219301	17.50%	7.50%
Percentage of total revenue									
Property rates	17.20%	16.80%	14.90%	14.90%	16.90%	16.80%	16.00%	-	-
Service charge	41.90%	39.20%	39.00%	41.00%	50.30%	52.80%	55.00%	-	-
Interest earned external investment	3.00%	3.10%	3.00%	1.60%	1.10%	1.00%	0.90%	-	-
Transfers operational recognized-	26.60%	30.80%	33.10%	32.60%	21.80%	20.50%	19.50%	-	-
Other revenue	11.30%	10.00%	9.90%	9.90%	9.00%	9.00%	8.50%	-	-
Total revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	-	-

Source: National Treasury. 2011a:60. 2011 Local Government budgets and expenditure review.

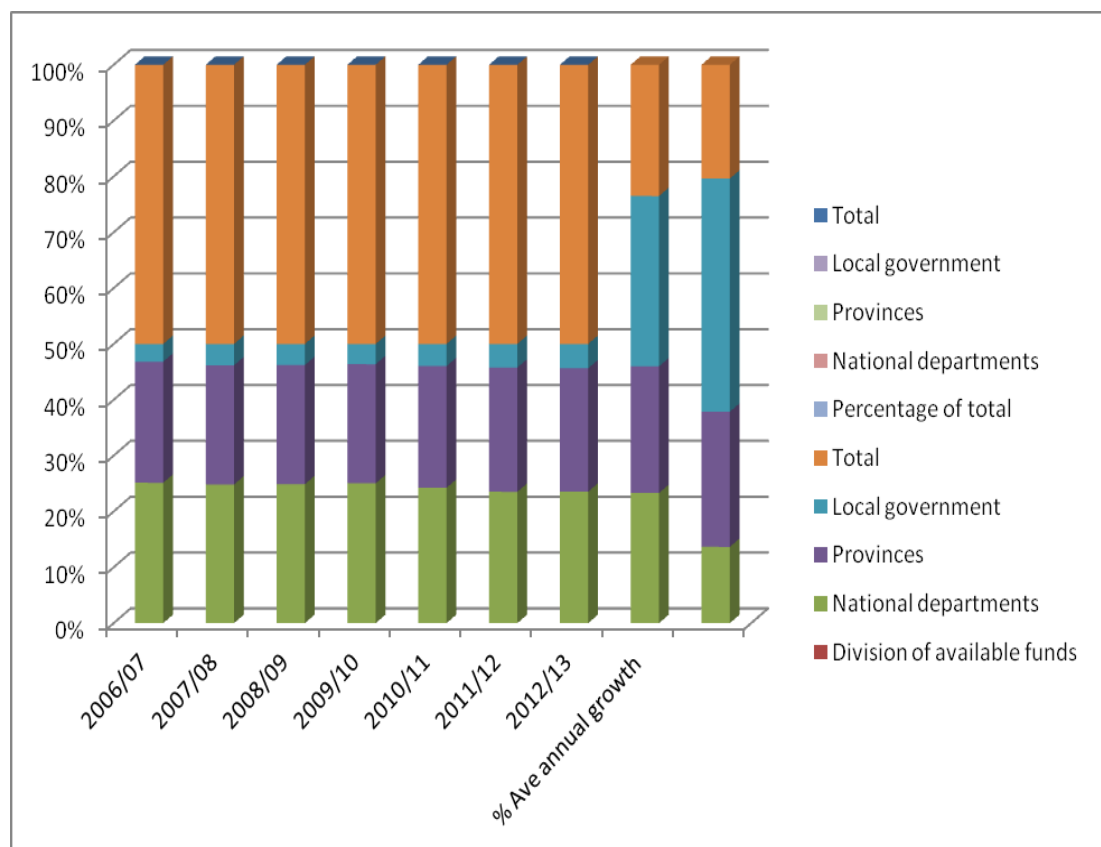
Table 4-2: Division of nationally raised revenue 2006/07-2012/13

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	% Ave annual growth	
R million	Outcome			Revised Estimates	Medium-term estimates			2006/07 - 2009/10	2009/10 - 2012/13
Division of available funds									
National departments	210,172	242,632	289,346	346,103	359,106	370,688	393,757	18.1%	4.4%
Provinces	181,328	208,666	248,286	294,968	322,858	350,547	369,348	17.6%	7.8%
Local government	26,501	37,321	44,037	50,146	58,821	66,640	73,187	23.7%	13.4%
Total	418,001	488,619	581,669	691,217	740,785	787,875	836,292	18.3%	6.6%
Percentage of total revenue per sphere									
National departments	50.3%	49.7%	49.7%	50.1%	48.5%	47.0%	47.1%	-	-
Provinces	43.4%	42.7%	42.7%	42.7%	43.6%	44.5%	44.2%	-	-
Local government	6.3%	7.6%	7.6%	7.3%	7.9%	8.5%	8.8%	-	-
Total	100%	100%	100%	100%	100%	100%	100%	-	-

Source: National Treasury. 2011a:53. 2011 Local Government budgets and expenditure review.

According to Tables 4-1 and 4-2, the growth in grants is intended to assist municipalities meet the operating and capital costs of providing basic services to poor households and fulfilling their other functions. National transfers are not a substitute for a municipality's own revenues. Non-poor households, businesses and other institutions in all municipalities are expected to pay rates and the full cost of the services they receive. The *Constitution* provides that national transfers may not compensate municipalities that fail to collect own revenues in line with their fiscal capacity.

Figure 4-2: Percentage of Division of revenue



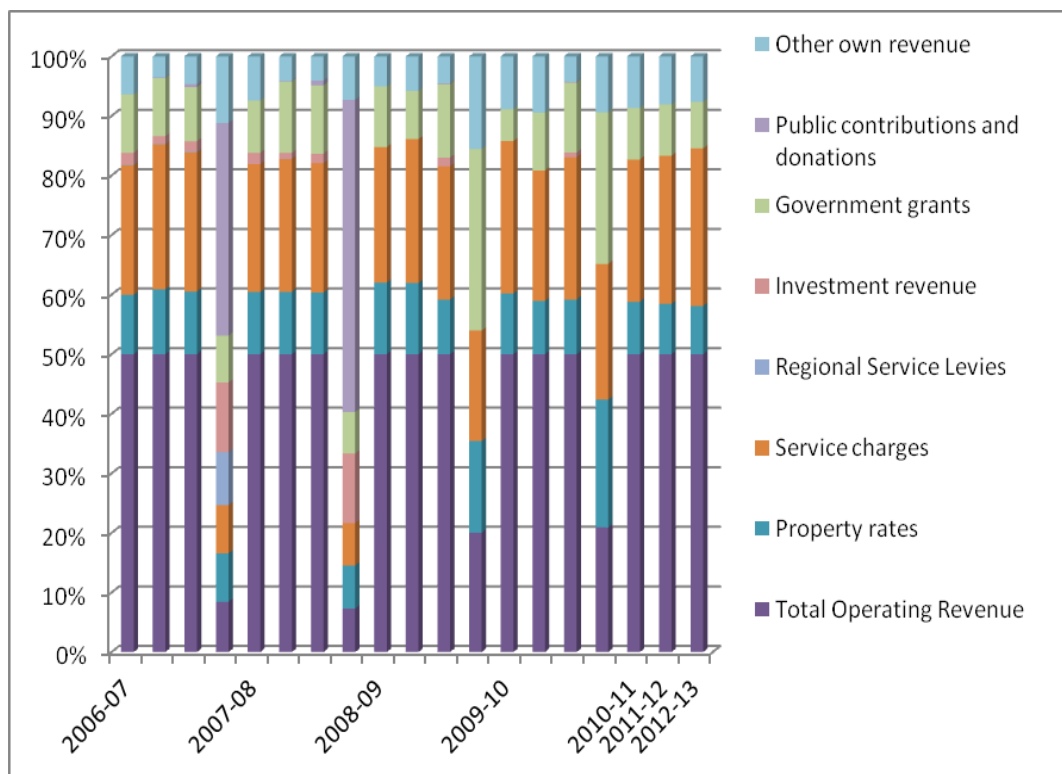
Source: National Treasury. 2011a:53. 2011 Local Government budgets and expenditure review.

Figure 4-2 shows that all municipalities are becoming increasingly dependent on national infrastructure grants to fund their capital budgets. This is not a sustainable trend, because it means the tariffs for the main municipal services are not covering the infrastructure costs of providing those services. The National Treasury (2011a:62), maintains that a municipality's scope to raise own revenues depends on its fiscal capacity. The extent to which a municipality

does raise own revenues in accordance with its fiscal capacity depends on its fiscal effort; this means the amount of attention it pays to ensuring effective revenue management.

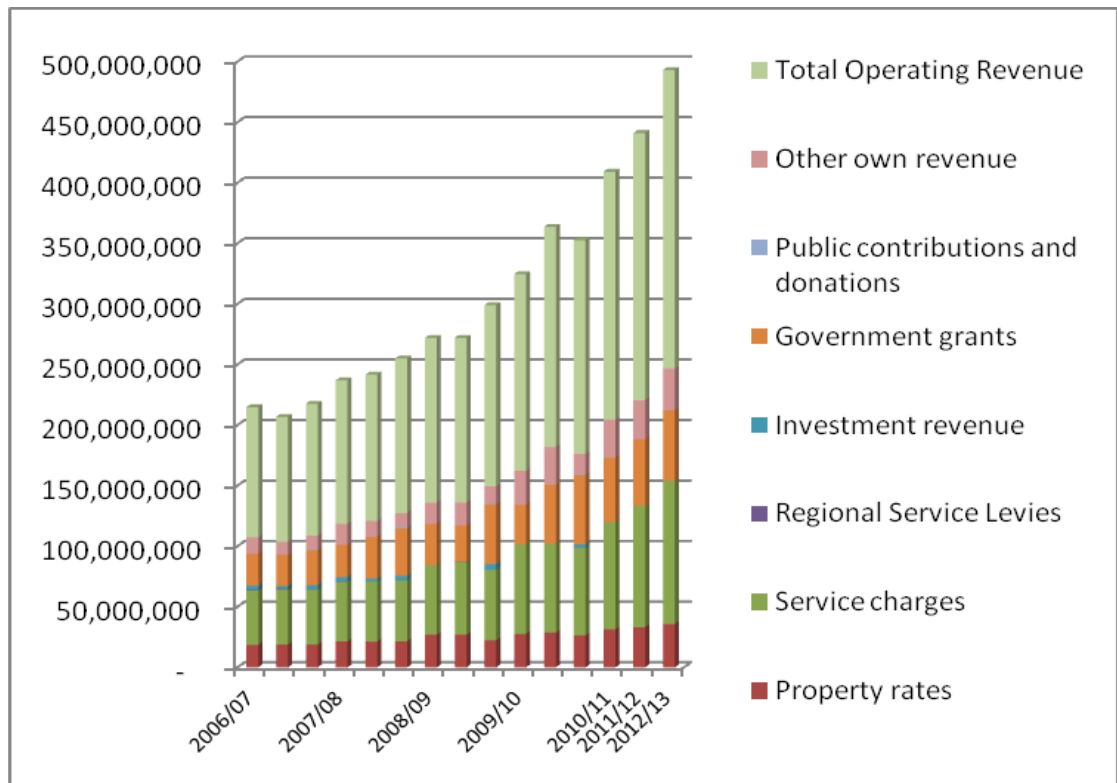
Figures 4-3 and 4-4 show, the aggregate own revenue for different categories of municipalities per sources. The following figures show the revenue sources of municipalities aggregated for metropolitan municipalities. The depiction will show that service charges and property rates, for example, have the highest share among all the revenue sources and as such the service charges and property rates will be impacted more than any other revenue in case incorrect data is captured in the billing system.

Figure 4-3: Percentage of revenue sources of metropolitan municipalities



Source: National Treasury, 2011d. Metropolitan municipalities operating revenue and expenditure Local Government data base.

Figure 4-4: Categories of municipalities’ revenue per source



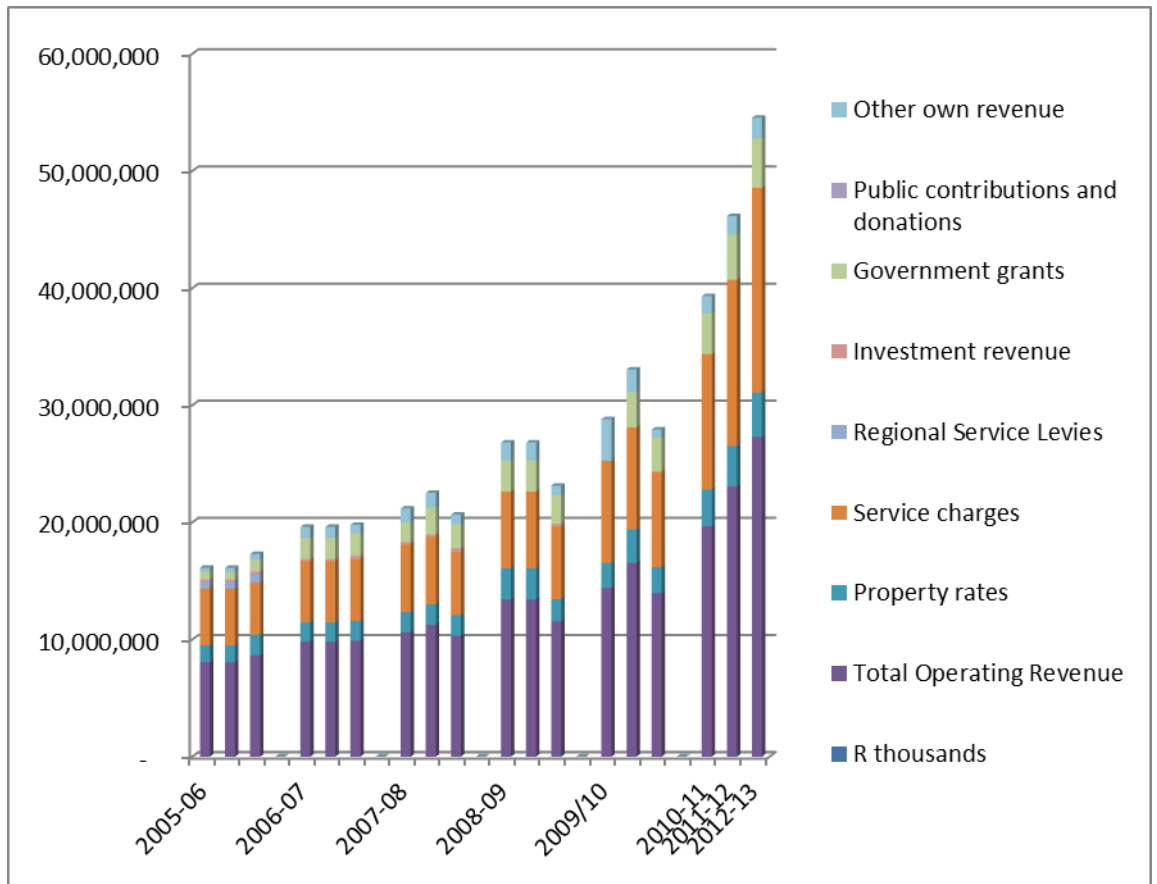
Source: National Treasury, 2011d. Metropolitan municipalities operating revenue and expenditure Local Government data base.

The analysis of revenue collection by the three selected cities follows.

4.3.1.1 Ekurhuleni Metropolitan Municipality

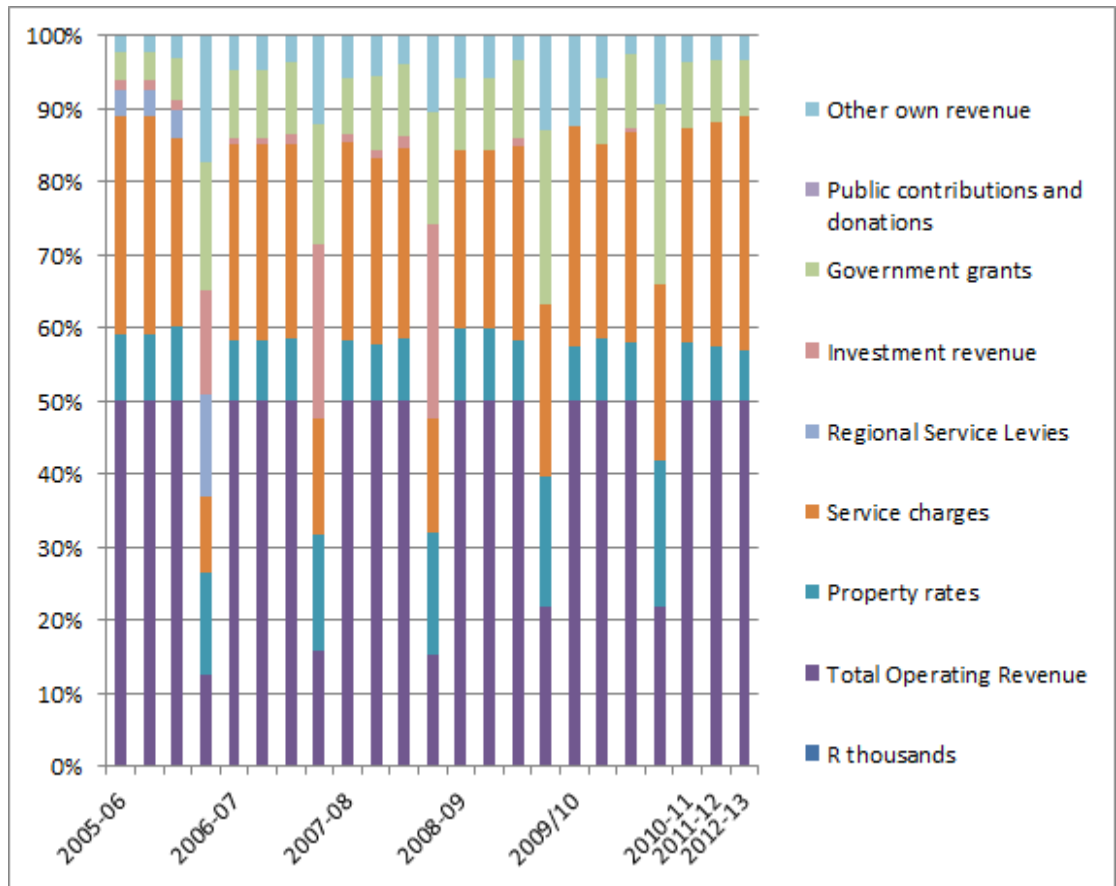
In terms of Figures 4-5 and 4-6, the Ekurhuleni Metropolitan Municipality collects revenue from property rates, service charges, regional service levies, which have been replaced by the urban settlement grants, investment revenue, government grants, other own revenue, public contributions and donations.

Figure 4-5: Ekurhuleni Metropolitan Municipality revenue collection



Source: National Treasury, 2011d. Metropolitan municipalities operating revenue and expenditure Local Government data base.

Figure 4-6: EMM percentage of revenue per source



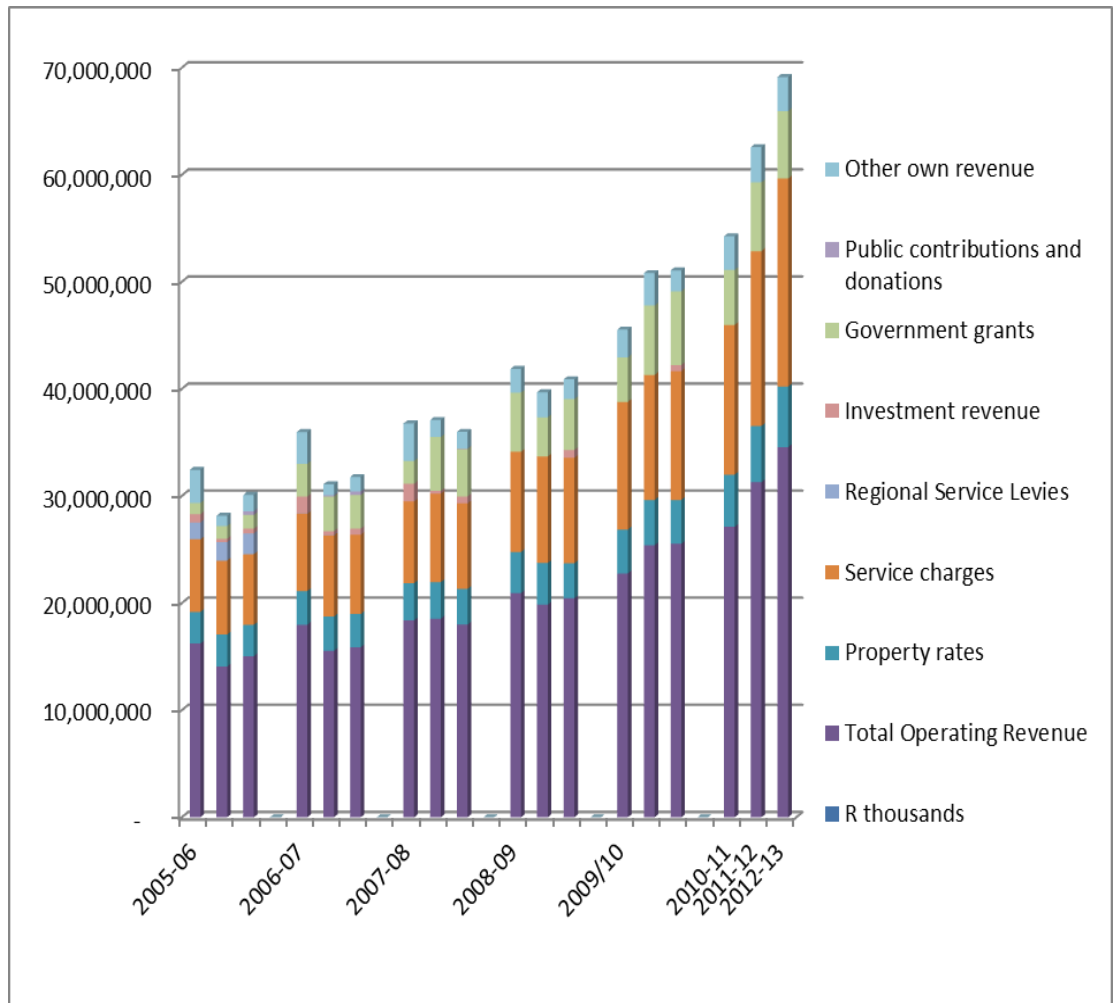
Source: National Treasury, 2011d. Metropolitan municipalities operating revenue and expenditure Local Government data base.

In terms of figures 4-5 and 4-6, service charges are the highest, followed by property rates and government grants. The municipal billing system must be planned and implemented in such a way that there is no loss of revenue to be collected due to the volume of incorrect information captured into the billing systems. It would seem that in the Ekurhuleni metropolitan municipality, the revenue enhancements strategies work in that service charges, which consists of water, sanitation, electricity, as well as property, yield benefits. It is apparent that the public confidence in this metropolitan municipality with regard to the municipal billing system works.

4.3.1.2 City of Johannesburg Metropolitan Municipality

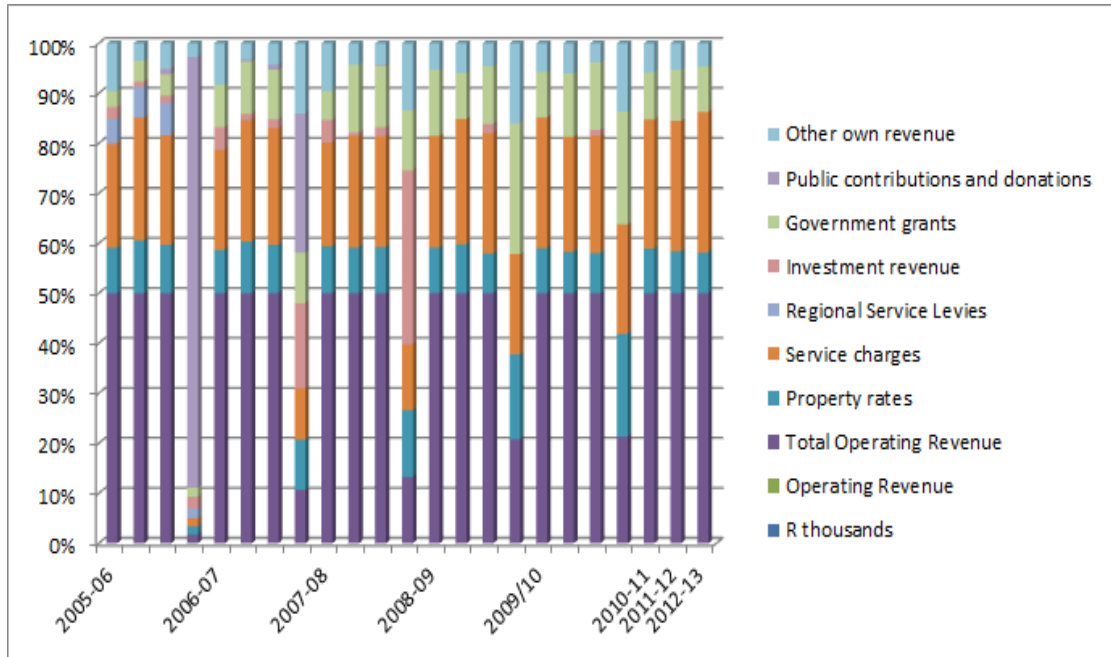
Figures 4-7 and 4-8 indicate that the dominant revenue source in the City of Johannesburg Metropolitan Municipality in the following order is service charges, government grants, property rates, followed by investment revenue, then other revenue, public contribution and donations.

Figure 4-7: City of Johannesburg Metropolitan Municipality revenue per source



Source: National Treasury, 2011d. Metropolitan municipalities operating revenue and expenditure Local Government data base.

Figure 4-8: City of Johannesburg percentage of revenue per source



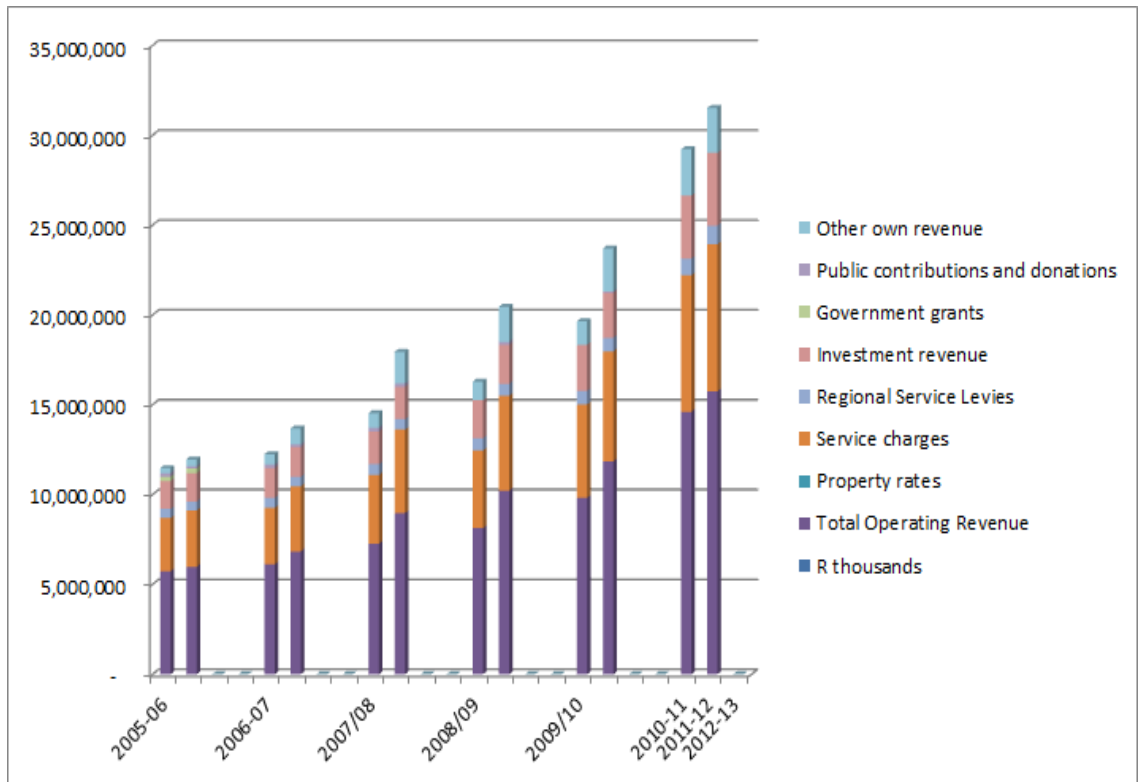
Source: National Treasury, 2011d. Metropolitan municipalities operating revenue and expenditure Local Government data base.

Figures 4-7 and 4-8, it can be stated that the City of Johannesburg Metropolitan Municipality also depends on government grants as it has been indicated that it is the second largest source of income for the municipality. The billing crisis, which is indicated in Chapter 5 of this research apparently, has an impact on the slack regarding the collection of revenue from other sources. It can be deduced that public confidence on the billing system have been low for a number of years dating back to 2007.

4.3.1.3 Nelson Mandela Bay Metropolitan Municipality

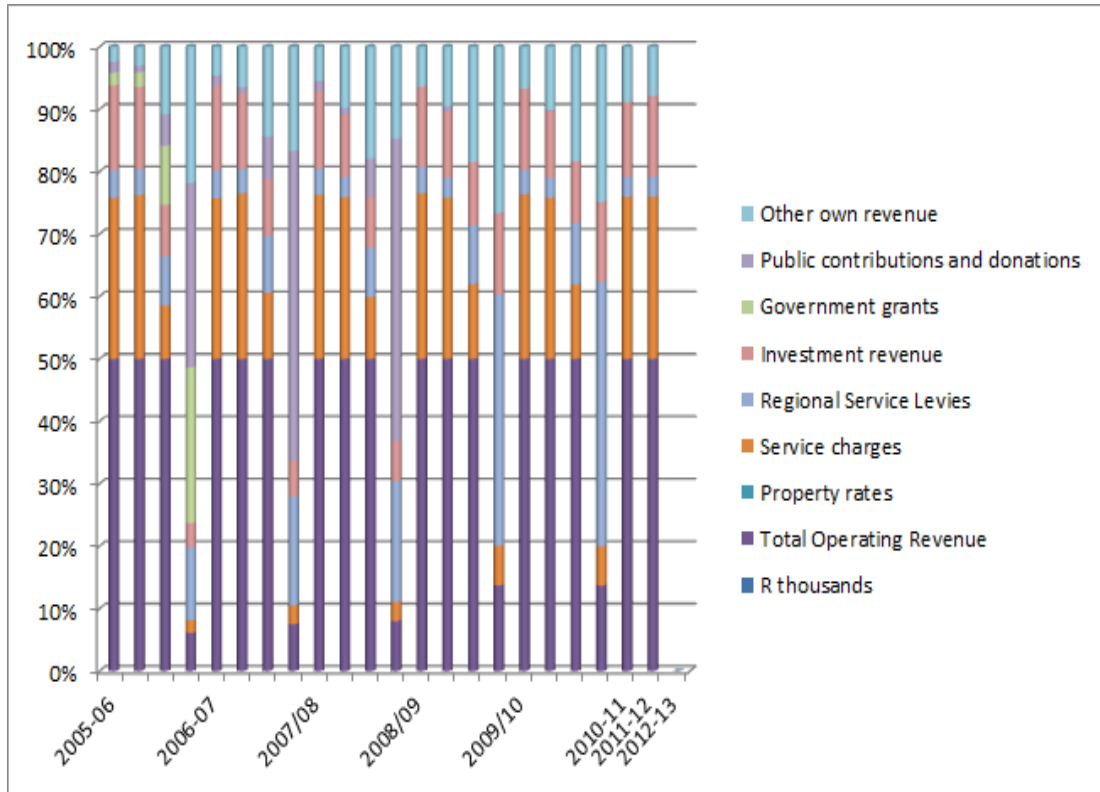
Figures 4-9 and 4-10 illustrate the revenue collection in the Nelson Monday Bay Metropolitan Municipality. The revenue sources of the Nelson Mandela Bay Metro Municipality are other own revenue, public contribution and donations, property rates, service charges, government grants and regional service levies, which have been replaced by urban settlement, and investment revenues.

Figure 4-9: Nelson Mandela Bay Metropolitan revenue per source



Source: National Treasury, 2011d. Metropolitan municipalities operating revenue and expenditure Local Government data base.

Figure 4-10: NMBMM percentage of revenue per source



Source: National Treasury, 2011d. Metropolitan municipalities operating revenue and expenditure Local Government data base.

According to figures 4-9 and 4-10, service charges top the list, followed by government grants, property rates, public contributions and donations, other own revenue and then investments. It can also be argued that public confidence regarding the accuracy and cleanliness of the municipal billing systems positively impacts on revenue collection as it relates to service charges for water, sanitation and electricity. This is so because ratepayers have not complained about the billing systems in the Nelson Mandela Bay Metropolitan Municipality.

4.3.2 Capital financing

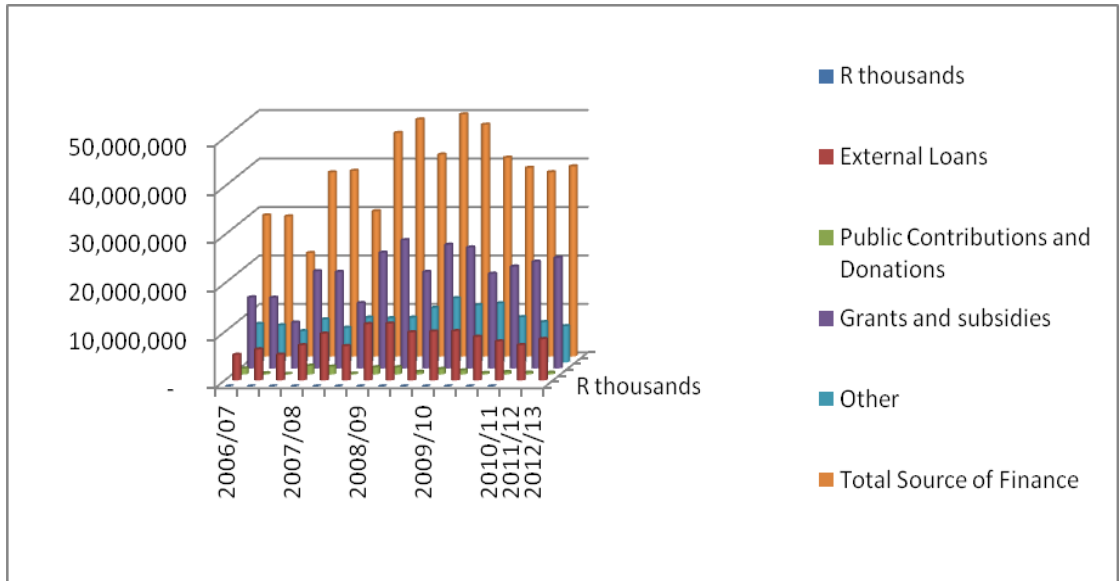
According to National Treasury (2011a:93) capital finance is municipalities' internally generated funds, intergovernmental transfers and borrowing and other sources of capital finance such as development charge, land leases, and public-private partnerships. The quality of the municipal billing systems can have an impact on the creditworthiness and bankability of municipalities. Poor billing and collection practices that result in huge commercial losses

and operating inefficiencies also hurt the creditworthiness of many municipalities, affecting their bankability and ability to tap the financial markets. Municipalities need to realise that, to deliver quality services and keep up with the fast pace of urbanisation, government grants may not always be sufficient to cover all costs for improving services. If municipalities can find ways to reduce their dependence on government grants, then the government could also prioritise such spending on other areas that require priority attention. Municipalities may need to tap capital markets for credit and, in order to do so, they will need to demonstrate financial viability and bankability and be able to meet the requisite conditions required for accessing credit.

The improvement of the collection efficiency of the billing systems improved collection efficiency is one way in which municipalities can demonstrate improved creditworthiness (Worldbank, 2008:5). The capital financing can be impacted negatively by the incorrect or inaccurate data input into the municipal billing system. The development charges and leases are the critical areas to be impacted and therefore in order to pay the correct amounts owing there would be a need to ensure that correct data is put into the municipal billing systems.

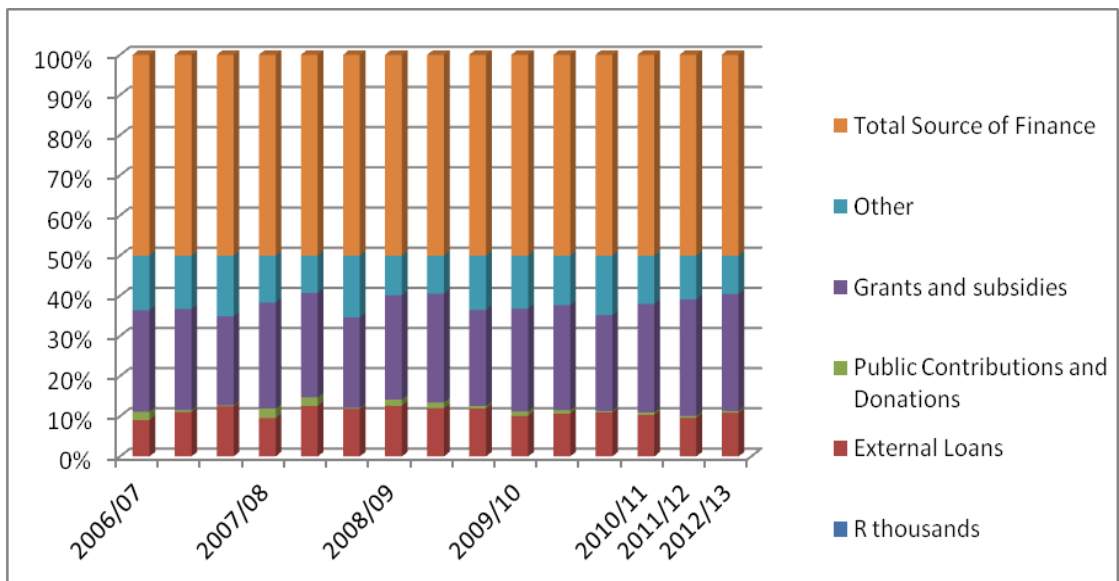
Figures 4-11 and 4-12, indicate the source of capital finance in local government. Figure 4-11 shows that grants are the major source of finance, followed by the external loans and then public contributions and donations and other sources.

Figure 4-11: Local government borrowing



Source: National Treasury, 2011d. Metros operating revenue and expenditure Local Government data base.

Figure 4-12: Percentage of borrowing per metropolitan municipality



Source: National Treasury, 2011d. Metros operating revenue and expenditure Local Government data base.

Figure 4-12 shows, the trend in public and private sector lending to municipalities from 2005 to 2010. The lending as the main total closing balances in outstanding municipal borrowing grew from R18.7 billion in 2005 to R38.1 billion in 2010 representing an average annual growth of 15%. The growth in borrowing from the public sector is of particular significance.

Private lenders became more risk averse during the recession, with the total debt from late 2008 to the end of the third quarter of 2010 remaining flat. In addition, the Infrastructure Finance Corporation Limited (INCA), a major lender to municipalities withdrew, from the market in 2009 citing declining margins due to competition from the public sector as reason. By contrast public sector lending almost entirely from the Development Bank of Southern Africa, accelerated sharply during this period, resulting in total public sector lending exceeding private sector lending for the first time. Most municipal borrowing from both private and public sector financial institutions takes the form of long-term loans. These account for R25.4 billion or 64% of total borrowing. Securities, mainly in the form of municipal bonds, account for R11.8 billion, 30% of total borrowing, while short-term debt accounts for 6%, of which R909 million is bank overdraft and R2.4 billion is commercial papers.

The sustainability of a municipality's borrowing depends on a wide range of factors such as the strength of its management team, the type of infrastructure funded and the municipalities' revenue management records. Table 4-3 compares measures of three case study metropolitan municipalities, namely City of Johannesburg Metropolitan Municipality, Nelson Mandela Bay Metropolitan Municipality and Ekurhuleni Metropolitan Municipality.

Table 4-3: Measures of metropolitan borrowing, 2011/12 adopted budgets

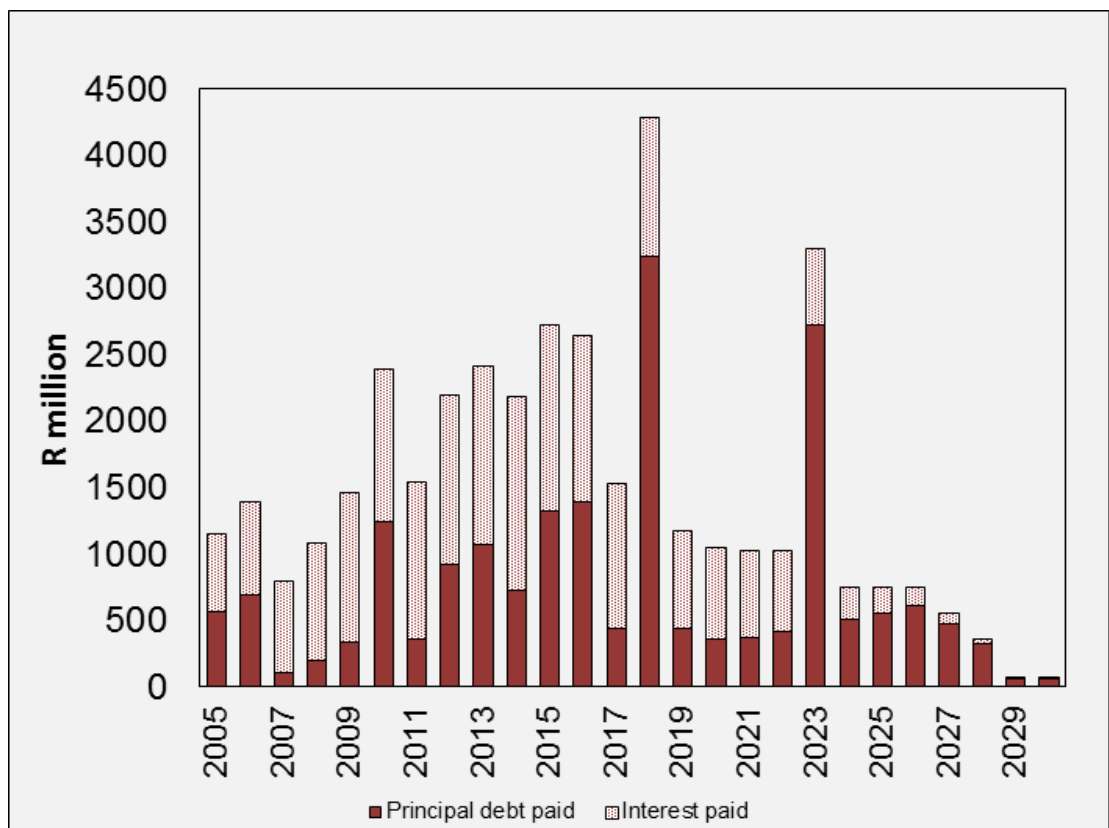
Rands thousands	City of Johannesburg	Ekurhuleni Metropolitan Municipality	Nelson Mandela Bay Metropolitan Municipality
Total borrowing liability	11 456 835	4 333 358	1 729 021
Proposed borrowing for the financial year	1 000 000	867 935	0
Cost of borrowing for the financial year	1 844 483	663 579	312 128
Total cost of debt as a percentage of total borrowing liability	16%	15.3%	18.1%
Total cost of debt as a percentage of own revenue	7.5%	7.8%	6.2%
Total cost of debt as a 5 of operating expenditure	6.5%	6.6%	4.8%

Source: Adapted from the National Treasury 2011a:97. 2011 government budgets and expenditure review 2006/07-2012/13.

4.3.2.1 City of Johannesburg Metropolitan Municipality

Figure 4-13 shows that the City of Johannesburg Metropolitan Municipality’s borrowing liability at the end of June 2011 was R11.5 billion. The proposed borrowing for the financial year was R1 billion, cost of borrowing R1.8 billion, the total cost of debt as a percentage of total borrowing liability was 16.1%, total cost of debt as a percentage of own revenue was 7.5% and while the total cost of debt as a percentage of operating expenditure was 6.5%. To this end, the peaks in the debt profile in 2018 and 2023 point to the need for the City of Johannesburg Metropolitan Municipality to smooth the maturity profile of its debt. The use of municipal bonds has enabled the City of Johannesburg Metropolitan Municipality to keep its total cost of debt as a percentage of its total borrowing to 16.1%. Total cost of debt as a percentage of own revenue is at 7.5%.

Figure 4-13: City of Johannesburg Metropolitan Municipality borrowing

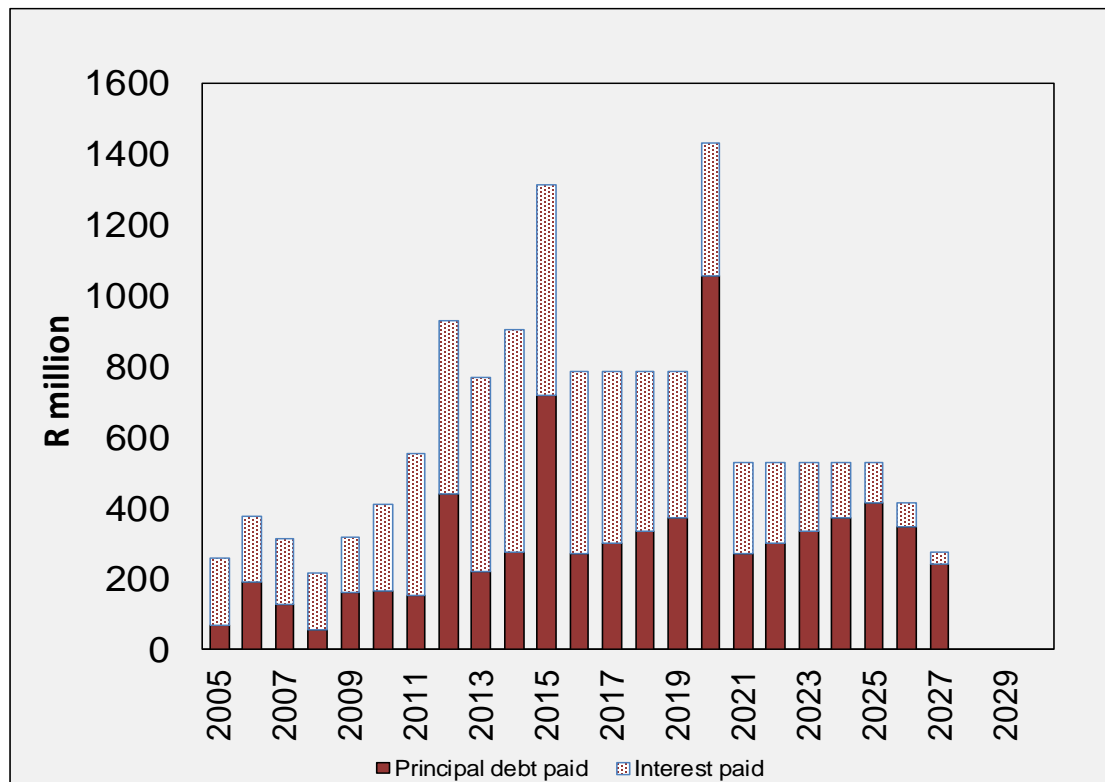


Source: Adapted from the National Treasury. 2011a:98. 2011 government budgets and expenditure review 2006/07-2012/13.

4.3.2.2 Ekurhuleni Metropolitan Municipality

According to figure 4-14 the Ekurhuleni Metropolitan Municipality borrowing liability as at the end of June 2011 was R4.3 billion. In the medium term, debt service costs peaked between 2011 and 2015. There is also a high payment due in 2020. At 15.3%, the city's total cost of debt as a percentage of its total borrowing is the second lowest among the metropolitan municipalities. However, its total cost of debt as a percentage of own revenue is at 7.8%, which is the second highest of the metropolitan municipalities.

Figure 4-14: Ekurhuleni Metropolitan Municipality borrowing



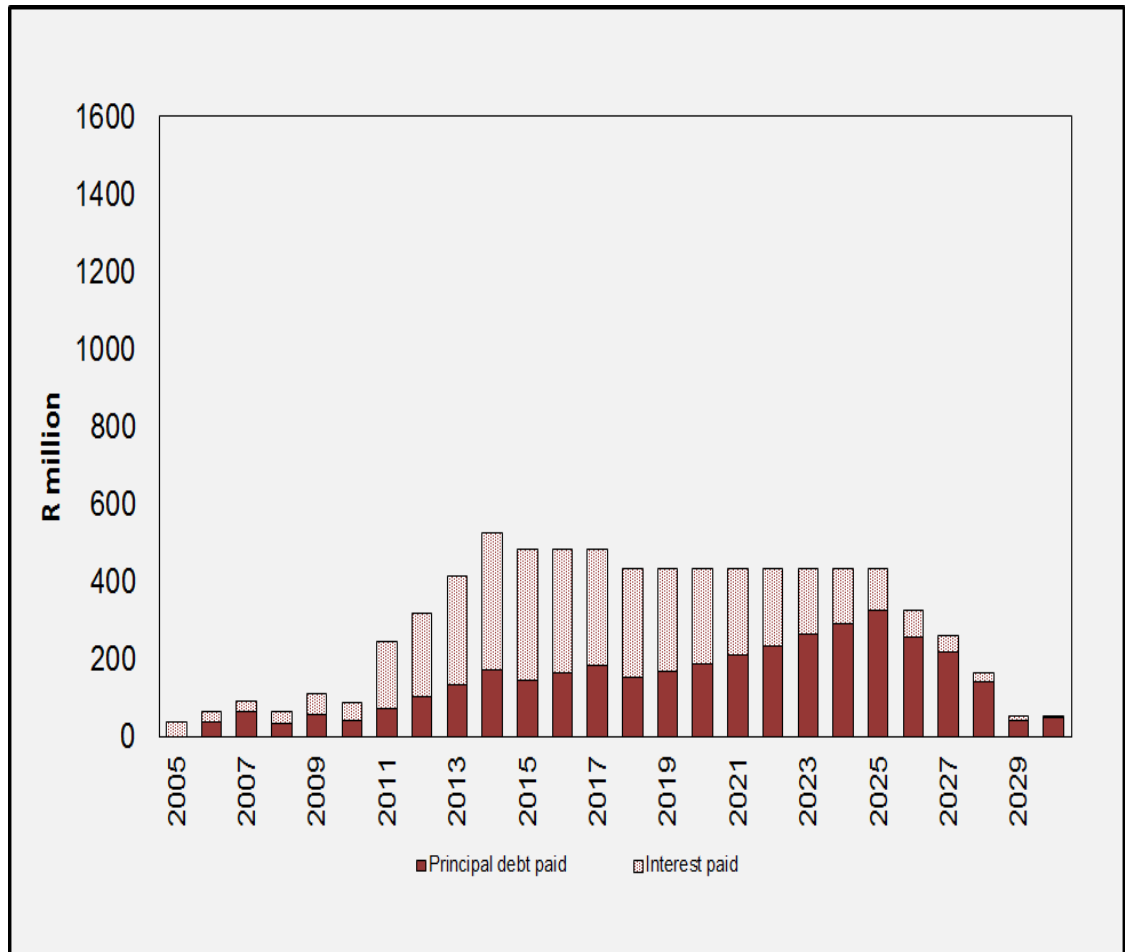
Source: Adapted from the National Treasury. 2011a:98. 2011 government budgets and expenditure review 2006/07-2012/13.

4.3.2.3 Nelson Mandela Bay Metropolitan Municipality

Figure 4-15 shows that the Nelson Mandela Bay Metropolitan Municipality's borrowing liability at the end of June 2011 was R1.7 billion. The cost of borrowing for 2011/12 is

budgeted to be R312 million. Debt service costs increased steeply over the medium term as repayment on two large new loans took effect. At 18.1%, the Nelson Mandela Bay Metropolitan Municipality’s total cost of debt as a percentage of its total borrowing is the second highest among the metropolitan municipalities.

Figure 4-15: Nelson Mandela Bay Metropolitan Municipality borrowing



Source: Adapted from the National Treasury, 2011a:98. 2011 government budgets and expenditure review 2006/07-2012/13.

In concluding this section, the impact which the municipal billing data can have on the municipal borrowing cannot be over-emphasised and as such, it will be critical that the data for principal debt, amount paid and interest charged and paid be accurately input into the municipal billing system.

4.4 ANALYSIS OF THE MUNICIPAL BILLING SYSTEMS OF THE THREE METROPOLITAN MUNICIPALITIES

In this section, the focus will be on the individual cases and the nature of the municipal billing system in the three metropolitan municipalities. The objective is to understand the municipal systems which municipalities plan and implement. In the municipal billing continuum, billing and revenue collection system requirements are critical drivers for the success of the planned municipal billing systems. As explained in Chapter 3 of this research, efficient billing and revenue collection systems can be achieved by computerising those processes and mapping them into the municipality business structure. This calls for a computerised application that meets those process flows. To this end, the billing software requirements, system hardware requirements and suitable software package are imperative for the development of such a world best practice municipal billing system in the three metropolitan municipalities. The municipal billing system functionalities which are linked to the municipal services accounts for the three metropolitan municipalities will be analysed as follows:

4.4.1 Ekurhuleni Metropolitan Municipality

The municipal billing system in the Ekurhuleni Metropolitan Municipality (EMM) is organised as indicated in order to ensure that the revenue collected from the communities is collected maximally. According to the Ekurhuleni Metropolitan Municipality, when a client moves into a new house, he or she should visit the enquiries counter at his or her nearest customer care centre to collect the necessary forms to fill in to apply for connection of services. The form includes a service agreement that must be signed by the prospective consumer before the supply will be connected; the customer will need to pay a deposit fee, the amount of which will be communicated to him or her when he or she collect the forms. A deposit is required as a form of security in the event of a consumer absconding, as is determined by credit and debt collection council policy. Once the customer have completed the forms in full and signed them, they must be handed in at the enquiries counter for capturing into the municipal billing system.

The customer is given an account number after which the customer can proceed to the cashier to pay the required deposit. The cashier will keep the connection form in order to process the customer request for connection of services; and the customer should receive his or her first account within approximately six weeks. Rates on properties are charged by the Ekurhuleni

Metropolitan Municipality in order to fund projects and maintenance work in the municipal area.

The customer is billed directly with a monthly account by the Ekurhuleni Metropolitan Municipality for services supplied or rendered to his or her property. This means the levies or charges in respect of the following municipal services and taxes: electricity and water consumption refuse removal, sewerage services, rates and taxes, interest and miscellaneous and sundry charges. Ekurhuleni Metropolitan Municipality sends the customer a monthly statement, which provides a detailed account of what he or she is being charged for and the due date for payment is clearly indicated:

- (i) assessment rates are calculated by charging a percentage of the valuation of the owner's property as an annual fee payable in 12-monthly instalments;
- (ii) water and electricity charges are based on the actual consumption determined by readings taken from the meters (in the case of credit meters) or by "loading" the meter with units (in the case of prepaid meters). The water is billed according to a sliding scale. This means that the more water he or she uses, the higher the average cost per unit he or she will pay;
- (iii) sewerage fees are calculated as a pro rata cost of water consumed; and
- (iv) refuse charges are determined according to the type or size of property the customer occupies and the frequency of collection payable as a fixed monthly fee.

According to the Ekurhuleni Metropolitan Municipality, this municipality operates a customer-friendly credit control policy to assist consumers in making arrangements to pay off monies owed to the council. If the customer is in arrears, he or she can make an arrangement to settle the arrears amounts. Despite these initiatives, the municipality's debts are growing every year; this can be associated with the negative public confidence on municipal billing systems which impacts negatively on revenue collection.

4.4.2 City of Johannesburg Metropolitan Municipality

The City of Johannesburg Metropolitan Municipality is the biggest municipality in South Africa (City of Johannesburg Metropolitan Municipality Growth and Development Strategy, 2010). The metropolitan municipality endeavours to plan for its municipal billing system to satisfy the municipal billing requirements and standards, however, the taxpayers are still not happy about the incorrect and inaccurate bills which are generated by the billing systems. The

detailed picture is discussed in Chapter 5 of this study. The arrangement of the municipal billing system in the Metropolitan financial governance is discussed in the following sections.

According to the City of Johannesburg Metropolitan Municipality (2010), every month the city sends out over a million accounts to all its residents, charging for electricity and water supplies, waste collection, and property taxes, more commonly known as rates. The City of Johannesburg Metropolitan Municipality is expected to be self-funding and municipal revenue is raised from three main sources: electricity and water provision and property rates. This income is used to pay for a wide range of public services, from the maintenance of roads and traffic control, to providing public parks, libraries, clinics, recreation centres and other similar services for the public. All property owners, both those who own freehold properties and sectional title holders, must pay rates. These are a city tax based on the market value of properties, which are recorded in the general valuation roll.

The above is outlined in the city's rates policy, which is based on the *Municipal Property Rates Act* (MPRA), (6/2004):

- (i) Property rates: Rates are payable monthly and as a property owner, consumers should make sure that the city has his or her current postal address so that the owner receives his or her account on time. Even if the owner does not receive a statement, he or she is still liable to pay his or her rates.
- (ii) Sectional title holders: Sectional title holders receive individual rates accounts, with domestic refuse and sewerage charges also directly billed against the sectional title holder. In the past, these services were billed against the body corporate or the managing agent.
- (iii) Accounts for water and electricity: Accounts for water and electricity are still billed to the bodies corporate. To ensure that the client receives his or her bills on time, he or she should ensure that the city has the correct postal address.

4.4.3 Nelson Mandela Bay Metropolitan Municipality

The Nelson Mandela Bay Metropolitan Municipality (NMBMM) has organised its municipal billing system and benchmarked it against the best world practice billing functionalities. It is currently common practice to refer to a number of functional areas and business processes in the Nelson Mandela Bay Metropolitan Municipality by the title billing or billing system. Within this broad term are the processes that deal with revenue calculation and debiting of

amounts due by contacts, administration of prepaid service vendors, receipting of debtor payments and generation of monthly bills. According to the Nelson Mandela Bay Metropolitan Municipality, the billing system must have functionality to cater for invoice or statement generation and printing, receipting, cash management, debtor management, financial and management reporting (Nelson Mandela Bay Metropolitan Municipality, Municipal billing system functionality proposal: 2006).

It is essential that the invoicing function is able to cater for scheduled as well as *ad hoc* billing and must cater for multi-dimensional pricing matrices and not just pricing lists. All functional modules of the system are required and created to cater for the capture of ‘business rules’ to determine correct work flow and functionality. The ‘business rules’ must be maintainable by duly authorised metropolitan municipality personnel. A fully integrated system with real-time update is essential to provide the required flow of information from one functional area to another, for example, a debtor’s management clerk can see the details of a customer’s payment within seconds of the receipt being processed at the cashier’s counter. By implication this requires online transaction processing from remote locations.

According to the metropolitan municipality, the database must be industry standard to provide accessibility via authorised query applications in order to expand the reporting functionality. The database should contain a single, central repository of data relating to entities and persons or contacts having a business relationship with the NMBMM. This allows those who have multiple relationships with the metropolitan municipality, e.g., a customer or debtor as well as a supplier or creditor to be easily identified thereby giving the metropolitan municipality a single view of the entire relationship with the contact. A central contact master facilitates the functions of an effective contact relationship management process. According to the NMBMM, the billing system must be developed in a language and for a platform that is commonly available throughout the information and communication technology (ICT) industry. In the event of a system being developed for the metropolitan municipality by an outside developer or a system being purchased from a distributor, there must be a transfer of technical skills and knowledge to metropolitan municipality personnel.

According to the NMBMM, it is essential that the system interfaces with the geographic information system (GIS) and computer assisted mass appraisal (CAMA) system to provide a seamless, graphical representation of data to facilitate accurate reporting, both scheduled and ad hoc, to support management reporting, budgeting and resource and asset management. While the billing process itself follows standard accounting practices for raising debit and

credit transactions, the tariffs of charges and the business rules that govern the selection of the appropriate tariff are complex. The revenue section provides functionality to calculate the amounts due by contacts to the metropolitan municipality for services and levies in accordance with the determined tariffs and business rules.

- (i) Property rates: The system has a functionality to calculate property rates subject to a number of requirements, for example, the valuation of property, calculation of different tariffs, calculation of a rebate or a reduction in rates, calculation of rates according to user defined and calculation and application of increases in property rates.
- (ii) Metered services: The system has functionality to link the numbered meter that is used to measure the consumption of services to the erf or property on which the meter is installed, categorise meters by type and by deployment, for example, electricity, water, dual meters or sub-meters link the contact to the numbered meter that is used to measure the contact's consumption of services, to create and maintain practical and efficient meter reading routes; capture and record the meter reading and the date on which the meter was read, calculate charges for services consumed according to a user-defined algorithm which may contain a number of variable factors in order to determine the correct tariffs to apply. In the event of a meter being read-out of cycle, the charges may be raised to the debtors account on an ad hoc basis, calculate an estimated consumption, according to a user-maintained algorithm. In the event that a meter reading is not performed in a billing period, recalculate an account from the meter transaction history, taking into account any tariff changes, or from a specific starting point in the history on an ad hoc basis with the option to accept or discard the result. The meter management system must be integrated with the billing system.
- (iii) Levies: The system has a functionality to generate a registration form for mailing to a contact that has opened an account for services or installed a prepaid meter in the name of a business or trading entity; to receive and capture details of registrations including additional contact information that may be available. If the business entity being registered for levies does not appear on the contact master, a contact record must be added and a request for additional information, for example, list of members if the entity is a close corporation is generated for mailing to the contact; to generate a registration certificate as proof of registration; to exempt certain categories of trading entities from the payment of levies but not from registration; to generate declaration

documents according to a user-defined schedule for mailing to registered contacts, to generate declarations for selected subgroups of contacts as defined by category, area, business type. To capture the details from submitted declarations, calculate the levies due and validate the amount calculated by the contact and debit the contact's levy account; to process the receipt of levy payments made by cheque, direct deposit, electronic funds transfer, where the contact has incorrectly calculated or incorrectly paid levies due, functionality is required to highlight the variance and produce an exception report for follow up; to generate an estimated levy due amount in the event that a declaration is not received from a contact by a user-defined date; and to calculate interest on overdue amounts according to user-defined algorithms; to correct and recalculate, including interest, incorrect accounts with full audit trail of actions taken to rectify the error and a printed statement of the corrected account.

- (iv) **Miscellaneous charges:** The system has a functionality which covers a diverse range of charges, and the charges are raised according to set parameters or as a result of distinctly identifiable events in order to define miscellaneous charges, the definition includes category, description- e.g. library services, dog licence, automatic or manual charge- i.e. automatic charges will have a billing cycle other than once-off, Billing cycle-e.g. once-off, weekly, monthly, annually, 1st of each month, half yearly, default should be set to once-off, rate-i.e. the charge amount; and to raise the charges against a debtor account whenever the need arises i.e. charges must not be required to be batched for capture at specific stages during the month. The charges raised must be visible on the debtor's account immediately, but will not generate a separate invoice or statement. The charges will be included on the standard invoice or statement generated for the debtor during the billing cycle for that customer. The details to be captured when raising a miscellaneous charge include: date- the transaction date supplied by the system, customer account number-this must provide the facility to search for the customer number using different criteria such as name or identity number and override the predefined value subject to correct user authority.
- (v) **Billing cycle:** The system has a functionality to confirm to predefined cycle or override with a different billing cycle subject to correct user authority. Effective date: date on which the charge is to be debited to the contact's account or the billing cycle begins. For once-off debits, the effective date may not be greater than a user-defined number of days in advance. Expiry date: for billing cycles other than once-off, the date is the date on which the charge must be raised for the last time. In the event of a

once-off charge, this date will be the same as the effective date. In case of final charge, for billing cycles other than once-off, the amount of the last debit must be indicated in the functionality. The number of debits is the number of times the debtor's account will be billed. It must be noted that the new system is required to validate the number of debits to be raised against the billing cycle, effective date and the end date to ensure a logical compliance.

- (vi) Debtor management: The system has a functionality to cater for the debtor management process, which conforms to debtor management and credit control principles, to capture in a contact's record, the results and relevant details of any credit screening; to highlight those contacts whose records do not reflect the results of a credit check; and to classify debtors according to account performance criteria. This is a separate parameter to debtor category and account status; to facilitate the collection of all money that is due as a result of bills issued to contacts for example, electronic diary, promise-to-pay reminders, customised letters, facilitate the management and follow up of debtors according to user-defined business rules, facilitate the monitoring and follow-up of defaulting contacts; to facilitate stop order arrangements with a contact's employer for once off payment of outstanding amounts and regular monthly amounts; to facilitate the accurate evaluation of a contact's credit-worthiness at any given point in time. This includes a view of all accounts for which the contact is wholly or partially responsible; to facilitate the review of the municipality's overall exposure to a particular contact or group of contacts at any point in time and to facilitate the calculation and charging of interest and/or penalties in accordance with user-defined algorithms and business rules, account for interest separately from the principal debt.
- (vii) Legal Process: The system has a functionality to highlight debtors whose accounts comply with the business rules that would make them eligible for follow-up according to the legal process; to ensure the correct procedure is followed according to the service category of the debtor (e.g. credit water and electricity meters or credit water and prepaid electricity). The system is required to present each step in the relevant procedure, generating the required documentation where applicable, and monitoring that each step is completed before the next step is initiated and to manage debtor accounts that have been handed over to the attorneys for processing. Such functionality must include all of the follow-up features specified above.

- (viii) Reports: A number of reports will be required to provide the required level of debtor management. In addition, the functionality to ad hoc query type reporting is required where report format may be one-off or saved for future use by the user that has developed the format. From the above billing functionalities, it can be stated that the municipalities use different approaches to the municipal billing system and revenue collection.

In concluding this section, all the three metropolitan municipalities have municipal billing system procedures, processes and infrastructure for metering operations and to a large extent reliable service to render to the communities. However, there was a deficiency in terms of the functionality information from the cities of Johannesburg and the Ekurhuleni metropolitan municipalities.

However, it should be stated that, the municipal billing system has to be capable of providing an effective service to users in respect of their varying and probably increasing managerial information and as such it must have the essential characteristics of flexibility and adaptability but producing correct and accurate bills to the consumers. One of the shortcomings in municipalities is a lack of integrated information systems. When the old mechanised systems were computerised, the tendency was to convert each system in isolation and the municipal billing systems developed separately from one another and had few essential features or functionalities in common.

The system started off as off-the-shelf package, but when the system was enhanced or upgraded were done in such a way that the final product was almost unrecognisable from the system which was originally introduced. The above state of affairs will likely corrupt the information in the database and as such the impact of the municipal billing system on revenue collection will be huge and negative and can even be deleted from the system. This led to a situation in the municipalities where the technical support for the system was scant, and to a large extent only one or two employees or consultant actually knew how the system was operated. Certain essential systems had not even been computerized or fully computerised in some municipalities. In the absence of the integration of the municipal billing system, on the one hand, and of the full computerised municipal billing systems, on the other hand, it is virtually impossible to extract meaningful management information and the consumer billing data on comprehensive bases.

Over and above the lack of standardisation at local government level, the need for standardisation with regard to the municipal billing system was and still is not seen as a priority programme by national and provincial government. In the absence of a standardised and integrated municipal billing system, the financial management of municipalities inevitably became an exercise in short-term and ad hoc planning and this was reflected in the general poor state of financial records and incorrect and inaccurate municipal billing systems (Fourie *et al.*, 2011:245).

Despite the above state of affairs and the slow pace in moving towards standardisation and integration, larger municipalities have deemed it fit to move towards the integrated database systems, which represented a substantial benefit for those municipalities. There are some significant technological resources in use in local government such as database systems, database management systems, fourth-generation programming, database administration, data processing techniques and distributing processing facilities. The planning and implementation of these systems can enhance the operations of the municipal billing systems and thus impact positively on revenue collections. This state of affairs needs future research in the field of municipal billing systems and revenue collection.

4.5 CONCLUSION

The own revenue sources and other income being internal and external generated by a municipality will be affected by the good or bad quality of the municipal billing system under any financial period. It must be stated that own revenue sources are paramount to the sustainability of the municipality if these resources are effectively exploited and collected. The municipal billing system will have a negative impact on the revenue sources such as the property rates, service charges, levies, borrowing grants and other sources in the event that the billing information input from the metering operation into the billing system is incorrect or inaccurate. This state of affairs will have an impact on the improvement of public confidence in that communities will protest against those incorrect or inaccurate bills and the revenue of the municipality will not be entirely collected and as such, debts will accumulate and be irrecoverable. The grants transferred to the municipality and borrowed by the municipality will be overstated or understated. In the case of borrowing, this may also affect the terms of the loan which will be incorrect and the interest calculated will also be affected.

In the field of the municipal billing system continuum and revenue collection, the vertical equity, horizontal equity, ability-to-pay principle, economic principle, financial principle, efficiency principle, simplicity principle and enforceability are imperative especially when the municipality has to plan for the billing processes, procedures and systems that can impact on revenue collection. From the revenue side, it is fundamental that when planning for revenue budget municipalities must determine the real long-term outcome in revenue collection and financial sustainability.

Without an effective billing system public confidence in the local governance system will suffer. The political leadership must ensure that the political dichotomy of revenue collection in the municipality is dispelled and that the selected municipalities have financial systems and municipal billing systems in place, however, debts continue to plummet, and this can be cited as ineffective planning and implementation of municipal billing systems. If the functionalities or billing elements are not compatible with the municipal billing system, not configured and planned properly it will have a negative impact on the data to be input into the municipal billing system and thus affect revenue to be collected negatively.

In the chapter that follows, the challenges with regard to municipal billing systems will be outlined in order to highlight to practitioners, academics and future researchers the weakness which municipal billing systems can have an impact on revenue collection.

CHAPTER 5: CHALLENGES OF THE MUNICIPAL BILLING SYSTEM AND REVENUE COLLECTION

5.1 INTRODUCTION

The previous chapter dealt with the analysis of municipal sources of revenue, municipal billing systems and their impact on revenue collection. The municipal billing system challenges are among others caused by the inaccuracy and incorrectness of the bills. The extent to which the bills are correct will determine the financial sustainability of the municipality. The ratepayers will be satisfied with the bills they receive, debts will be minimised and not accumulated. The municipal billing system and debt management, especially with regard the processes of managing revenue data, are critical in ensuring that the bills are always clean, correct and up-to-date.

This chapter focuses on the challenges that the selected cities face regarding the municipal billing system and revenue collection. The emphasis will be on the consumer debtors, the challenges of municipal billing system, revenue collection, implications of legislation and the effective utilisation to ensure that the municipal billing system impacts positively on revenue collection and debt management. An attempt will also be made to examine the challenges which are faced with various municipalities regarding municipal billing systems, revenue collection and debt management.

Applicable local government legislation as well as municipal policies and by-laws on revenue collection, design and implementation of the municipal billing system in various municipalities as they relate to efficiency, effectiveness, economics, and equity and accountability will be analysed. Statistically extracted data from the National Treasury and Auditor-General reports will be a further tool for analysis.

5.2 STATE OF REVENUE CHALLENGES IN THE CITIES

For the purposes of this section, an analysis of the challenges will relate to revenue, municipal billing in the City of Johannesburg Metropolitan Municipality, the City of Tshwane Metropolitan Municipality, the Nelson Mandela Bay Metropolitan Municipality and the Ekurhuleni Metropolitan Municipality and other organisations external to the selected

municipalities' environment. The purported challenges will seek to indicate the impact which the municipal billing system has on revenue collection in the selected South African cities.

5.2.1 Revenue challenges

Revenue collection involves providing services to customers as efficiently and effectively as possible. Revenue collection relates to metered service delivery and billing. This critical element includes the collection of revenue, customer management, debt and credit control and indigent management. The question regarding indigents poses serious challenges to local government as a large portion of municipal customers are indigent and therefore cannot afford to pay for services. This has to be factored into the financial planning and strategy development of municipalities. It is critical for the municipality to understand its customer profile and to differentiate between those customers who can pay and who cannot pay. The management of and planning for the customer profile, in the billing system and revenue collection is problematic in nature. Based on this customer profile, the municipality can start planning strategies for the free basic services implementation, indigent subsidisation, local economic development, indigent management, service delivery and services roll-out, billing and revenue collection.

A number of problems are common to revenue collection administration in all types of governments such as the slow processing of revenue receipts, slow deposit of receipts, slow billing, incorrect, inaccurate bills, lack of incentives to pursue collections, weak enforcement of revenue laws, determining what is owed, poorly trained staff, lack of internal controls and record management, non-payment, credit control, indigent management, revenue enhancement strategies, revenue tax base, bringing revenue into the tax net for municipalities in rural areas, ineffectiveness of policies to enforce revenue collection, fear by officials and the municipal leadership to enforce by-laws and policies (Allan,1993: Chapter 1-12).

The International City Managers' Association (1955:36) states that one of the most important single municipal problems to be taken into account is that of obtaining sufficient revenue to finance essential services. In that way, the local revenue system may be adapted to the local economy and there must be some guideposts that may be useful to municipal officials in analysing and solving the problem. Due to the inadequate and restricted tax resources, municipalities have a difficult time financing local services. The alarming spiralling of municipal debt in South Africa could eventually have a destabilising effect on the national economy. It can be emphasised that the *Municipal Systems Act* (32/2000) places duties on municipalities in terms of the debt collection responsibilities which are briefly indicated that a

municipality must collect all money that it is due and payable to it, subject to the *Municipal Systems Act* (32/2000) and any other applicable legislation. The municipality, must adopt, maintain and implement a credit control and debt collection policy which is consistent with its rates and tariff policies and complies with the provisions of the *Municipal Systems Act* (32/2000) (Craythorne, 2003:230).

The National Treasury (2011b:3) states that municipalities were owed the alarming amount of R64.6 billion rand on 30 June 2011. In addition, the *Municipal Systems Act* (32/2000) requires that there be a supervisory authority for debt collection and this should be seen as an internal control because if debts are not collected, the estimates of revenue in the budget become unrealistic and can lead to budget deficit. The other view which is apparent with regard to revenue challenges has to do with protest action. The majority of ratepayers who withhold their property rates and/or fees or services have formed ratepayers associations to represent their interests. These associations exist in the majority of the country's municipalities.

The nature and form of dispute with a municipality are determined by local conditions, for example, it is possible that not all ratepayers in a ratepayers association are withholding rates. The reasons for withholding also vary from municipality to municipality and can range from disputes concerning property rate tariffs, inaccurate and incorrect bills to service delivery failures in respect of key services such as water and electricity (Good Governance Learning Network, 2010:98).

5.2.2 Billing systems challenges

The municipal billing system regarding revenue collection will be affected by factors prevalent in the municipal billing environment, such as absence of information from the formal cadastral registration, data from the meter operations or readings, electronic fund transfer, lack of standardisation, integration and support, lack of capacity both in terms of the billing software, hardware and human capital. Nel and Engelbrecht (2010:2), state that IT (information technology) was implemented when the municipal management system was available on a digital platform and effectively integrates specialist systems, processes, people and data into a single coherent operational whole. To this end, it does not merely connect systems or data, but includes challenges regarding the management of people and the processes that make up the municipal value chain from input to output.

To this end, there are various factors that can make a system vulnerable to error or collapse, such as the data it contains, the way it manipulates and presents information, the business

processes that result in data input and the integrity checking mechanisms that manage data quality. In the field of municipal billing system application, some factors are random and specific to particular data, such as a data capturer who has a headache on a particular day, and enters some data incorrectly and others are pervasive and systematic and affect the entire data set and the whole systems operation, its very structure through data capture to the presentation in reports. One of the most frequent and widely publicised manifestations of system failure is the billing crisis in the City of Johannesburg Metropolitan Municipality, where incorrect billing is a regular occurrence and in order to understand the possible problems, the process must be mapped.

The billing crisis is also paralleled by the many challenges with valuation rolls published by municipalities due to errors and omissions. Possible sources of error could include: the meter was read incorrectly, the reading was incorrectly transcribed, the wrong meter was read, e.g., the neighbour's meter was read and the historic meter reading was damaged resulting in an erroneous calculation. It can be argued that it is difficult to determine where the process has started. It could have begun when the land parcel being billed was created and this was then acquired by someone and in practice, a consumer should have been created in the financial system.

As indicated above, it can be argued that some erven that exist are not in the financial system based on the cleaning of data in municipalities in South Africa. Take, for example, the former Township Administration Notice R293/1962. In those areas, the erven are informal, i.e. not in the formal cadastral registration system, be they traditional and orderly, or random and informal settlements. As indicated in Chapter 4 in the analysis of the municipal billing system, the municipal financial systems or billing systems usually have some form of reference to the erf number, associated with a township code.

It is critical to note that when the land parcel number is not available, some other random number is used. This makes the system vulnerable, because the creation of this number is not logically repeatable and the process cannot be traced, checked or audited. To this end, if the municipal officials in finances were never notified that the parcel exists, it will never have been created, and the owner or occupant will never have been billed or bills will go to a wrong client. In most cases, municipalities abandon old financial systems and have new ones installed, because of billing failures. When the new system also fails and neither financial software system is at fault, it can be indicated that the fault lies in the introductory data. In a system conversion, when the initial data is not clearly well known, then the data is easily

damaged and almost unfeasible to repair, because it connects to no auditable verifiable entity in a maintained system.

In terms of the former Township Administration Notice R293/1962 and R188/1969, township data in the municipal system is mixed in such a way that the departments, who were owners of public properties and owing municipalities in those areas, are also critical about the billed invoices and not willing to pay because the bills are not correct. These departments are requesting municipalities affected to clean the bills first and then they will be able to pay for the correct debts. Over and above that, the owners of the billed properties are not exactly known by municipalities as the government has not conducted a proper property transfer since 1994 and municipalities are left with old information in their municipal billing systems.

According to Wayne (2003:26), *controls* are those that management puts in place to prevent problems from occurring. It must be determined which problems one is trying to prevent. Management must identify possible events that represent a problem to the organisation and then identify appropriate responses to those problems. These are examples of planning regarding municipal billing systems and revenue collection and it means management identifies examples of minor concern to major disasters that could occur. To this end, management has to plan for the municipal billing system from getting the appropriate technology, capturing of information, maintain data of the customer, the collection of billed revenue through to enforcing of the system.

According to Zahir and Peter (2001:114), *information systems* are a primary enabler to initiate business change between organisations and are considered pivotal to the efficient and effective running of a modern business and as such metropolitan municipalities also not an exception. The revenue collection challenges are huge as can be seen, for example, from the fact that data which has input into the billing system was incorrectly captured during the processing from the metering operations on meters read into the municipal billing system.

The incorrect meter readings input into the system affected revenue collection because the readings were often higher than expected and generated bills which consumers were not able to pay and they then lodged disputes on such bills. The meter operations or readings in various municipalities are read on a quarterly basis and this poses another challenge with the impact of the municipal billing system on revenue collection. The disadvantages of using the quarterly information as bases of billing consumers are that municipalities apparently estimate bills endlessly and members of the public find themselves in a quandary especially where a

ratepayer stays alone in an apartment and is charged maybe R3 000 for water and electricity per month. These are some of the cases where a ratepayer will dispute the bill as an incorrect bill. Of the reasons driving household non-payment, poor or irregular metering systems were particularly emphasised (Stats SA, 2005-2008).

Allan (1993:33) states that billing will most likely be the responsibilities of the revenue collection office, although it can be shared by other departments. In some municipalities, for example, the engineering services will be responsible for meter reading and then pass the data on to finance for compiling of bills to the customers. It is critical that the collection of meter readings should be recorded correctly in the municipality's accounting system. To accomplish this goal, information on revenue collections should be transmitted promptly by the revenue collection office to the accounting office. The collection of payments through the electronic fund transfer system also is a cause for concern in that proper reconciliations are not done timeously by municipalities and this affects the correctness of bills and revenue collection.

Members of the public mostly do not complain for the sake of it, but for a proper reason which may have not been effectively addressed by municipalities' management. There are serious challenges regarding municipal billing systems such as integrity of billing information, accuracy of billing, ability to collect, lack of standardisation and integration of information technology systems and also support by the municipal leadership (National Treasury, 2011a:71).

It can be argued that the incorrect or inaccurate bills is exacerbated by, *among others*, the lack of capacity, commitment, culture and skills from meter readers and municipal staff that capture readings and input the readings into the billing system as bills are in most cases incorrect and too high. The key challenge of the billing crisis is therefore linked to building the internal capacity and expertise to oversee and run a billing system, the ability to painstakingly build up an accurate valuation roll reflective of all consumers in a municipality, the ability to accurately measure property rates as well as the monthly consumption of services, the ability to bill regularly and accurately, and the ability to follow up and act on non-payment.

According to Nzewi (2011:697), weakness in regional institutions has been attributed to the low level of commitment of political leaders to municipal billing projects and technical reasons such as lack of capacity and resources. Reasons such as poor capacity and resources have been suggested for the largely dysfunctional state of municipal institutions in South

Africa. In some quarters the weakness attributed in municipal institutions relates to the level of commitment of the municipal leadership towards growing such institutions. Poor administration normally results in poor monitoring, poor municipal billing systems, delayed revenue collection and substantial revenue collection outstanding. The financial system needs to meet international standards to allow local governments to monitor and compare the progress of revenue and expenditure throughout the year. Community involvement needs to be pursued vigorously (Setapa and Yee, 2009:308).

According to the National Treasury (2011a:90), the following areas continue to require intervention, namely poor financial management capacity in the budget and treasury offices of municipalities and key municipal service delivery departments. The question of political interference, which has been in the municipalities since the dawn of democracy, leaves much to be desired especially in the financial management and procurement operation of municipalities, which invariably undermines the capacity of the budget and treasury offices regarding the municipal billing systems and revenue collection continuum.

Poor financial health is a result of a number of factors such as inefficient operations, poor levels and/or absence of metering, poor billing and collection practices, poor structure and levels of tariffs, increased and inefficient operational cost, and weak management. The impact of poor billing and collection is reflected in long collection periods. The selected municipalities report collection periods of more than three months and even longer. Poor billing and collection practices also emanate from the lack of political will to support the municipal billing system and enforcement that would allow for recovering the costs incurred in supplying the service.

To this end, poor billing and collection practices hurt municipalities. More often than not, municipalities consider billing and collection activities a routine exercise that they need to undertake; hence, they do not have a proactive attitude regarding such practices. Pertinent aspects prevalent in the municipal billing system and revenue collection environment will be discussed in the following sections (Agrawal, 2008:4-10).

(a) Revenue inadequacy, poor cost recovery and poor services

Poor billing and collection practices prevent municipalities from recovering sufficient costs to properly operate and maintain facilities and, therefore, provide an adequate service to the customer. Many municipalities in the country today fail to accurately bill for every unit of water produced, either on account of lack of incentives to bill or for other internal factors such as inadequate customer records, inadequate processes and systems or unwilling customers who default on payments because they are dissatisfied with the services they receive and with incorrect bills issued.

(b) Cost inefficiencies

It can be argued that poor standards of services cause poor revenue collection. The most significant impact of poor billing and collection practices is probably on revenue adequacy and cost recovery. Ineffective billing and collection practices also lead to suboptimal results and operational inefficiencies. Given that every municipality must spend time and resources on billing and collection functions, any ineffective initiative will result in cost inefficiencies. For instance, resources may be put into computerising and updating customer databases and customer records, but if municipalities still fail to bill and collect effectively, then all efforts for updating records are wasted.

In concluding this section, it is critical that municipal political leadership and administration must realise the importance of effective billing and collection, the common pitfalls that their poor implementation, improvements of current billing and collection practices through measures such as robust record keeping and billing procedures, updating customer databases, using improved technology and encouraging and incentivising staff to undertake billing and collection functions more diligently.

5.2.3 City of Johannesburg Metropolitan Municipality

Municipal billing systems have been in the public domain since 2007. Public discontent with the poor billing practices of the City of Johannesburg Metropolitan Municipality proves that poor billing or collection is specific not only to smaller, less-resourced municipalities but also to Metropolitan Municipalities. Improvements in billing and collection have the potential to bring about immediate enhancements to the revenue bases of municipalities, instead, as households, business and government confirm, issues around incorrect billing continue to

negatively affect the integrity of municipalities. Poor performance can result in paying customers being categorised as defaulters and can, in certain instances, exacerbate unwillingness to pay and this could also weaken enforcement of legislation.

There is an agreement in the public domain that there is challenge with regard to municipal billing systems in municipalities. However, they do not seem to grasp what the core problem is. The problems in the City of Johannesburg Metropolitan Municipality have attracted national attention more than before. Problems in implementing the City's Phakama billing Project consolidation system, specifically an alleged rash of inflated water and electricity readings leading to some 41 000 disconnections, resulted in a storm of customer complaints culminating in a sit-in by dis-satisfied customers in January 2011. A total of 41 000 households is a big number in the world of statistics and constitute a sizeable number of voters during an election period. These customers must not be under-estimated because their complaints have an impact on public confidence. If they do not pay, it will have an effect on the revenue collection of the City of Johannesburg Metropolitan Municipality.

(a) Property rates revenue

The Auditor-General (2011:15), found that a reconciliation of properties in terms of the valuation roll as compared with the properties regarding the debtors' billing system carried out the City of Johannesburg metropolitan municipality had differences between the two systems. The estimated impact on assessment rates could, therefore, not be determined. In the absence of a suitable reconciliation between the water consumption points and the billing system, it was not possible to assess whether all properties within the boundaries of the municipality were included or validly excluded from the billing systems of Johannesburg Water (Pty) Ltd. To that end, the impact on the revenue base of the municipality could not be determined. In the absence of detailed prior year accounting records for collections on behalf of Johannesburg Water (Pty) Ltd by the core municipality, it was not possible to express an opinion on the completeness and accuracy of collections totalling R58.0 million by the City of Johannesburg Metropolitan Municipality.

According to the Auditor-General (2012:7), apart from the above cited figure, included in the revenue of R28.9 billion was an amount of R4.9 billion relating to property rates material differences revenue identified between billing data and source data relating to property categories and market values without complete audit evidence. The municipality's records did not allow application of alternative audit procedures regarding the differences in identified

property rates revenue. To this end, the Auditor-General was not able to verify the accuracy, cut-off, completeness and occurrence of differences including the amount of R4.9 billion relating to property rates revenue as was indicated in the financial statements.

(b) Service charges

The Auditor-General (2012:7), states that the services charges of R28.9 billion was revenue for the supply of electricity and water by the City Power Johannesburg SOC Ltd, (City Powerland Johannesburg Water Ltd and Johannesburg Water, respectively). In that amount material differences were identified between the billing data and the source data relating to meter reading and property categories without complete evidence. The records did not permit the application of alternative audit procedures regarding the differences identified in service charge revenue. It was not possible to verify the accuracy, cut-off, completeness and occurrence of the differences including the amount of R15.2 billion relating to the revenue for the supply of electricity and water as indicated in the financial statements.

(c) Consumer debtors

The above state of affairs had a wider financial implication relating to consumer debtors with regard to the customer perspective, the challenges of property rates, water and electricity revenue loss (Auditor-General, 2012:7-13). Material shortcomings were identified by the audit outcomes of the revenue billing and management system, which raised uncertainties regarding the accuracy, cut-off, completeness and occurrence of revenue and consumer debtors' financial data. Because of this problem, the Auditor-General was unable to obtain sufficient and appropriate audit evidence as to the existence, completeness, valuation, allocation of and rights pertaining to debtors of R4.4 billion with respect to the City of Johannesburg Metropolitan Municipality and its entities.

The state of affairs also had a far reaching effect on revenue management in that the Auditor-General audit outcomes also revealed that:

- (i) revenue per billing reports generated by the municipality was not always reconciled to the accounting records at least on a weekly basis as required by Section 64 (2) of the MFMA;
- (ii) contrary to the requirements of the by-laws of the City of Johannesburg Metropolitan Municipality, water consumption was billed on estimates for more than six months;

- (iii) the accounting officer did not take all responsible steps to resolve deficiencies relating to access controls and user management in the billing system, which could have opened manipulation of billing information by people with ulterior motives;
 - (iv) processes to advise municipal entities of deleted meter readings as well as validation parameters were inadequate and the metropolitan municipality did not have an adequate system which recognised revenue when it was earned, accounted for debtors and accounted for receipts of revenue as required by section 64 (92) of the MFMA; and
 - (v) the Accounting Officer of Water and Johannesburg City did not take all reasonable steps to ensure that meter readings were reviewed for credibility, exception reports were followed up and cleared on a timeous basis and that discipline was enforced to regularly read meters. To this end, adequate management and billing system was not properly maintained as required by Section 97 (h) of the MFMA.
- (d) Financial management

The reconciliation between the various billing reports generated from the billing system was not adequately recorded to identify potential errors in the billing to consumers. The information system or municipal billing system for recording revenue and debtors did not ensure that source data and billing were aligned. No adequate reasons for overriding or amending meter readings by the billing department were received and resolved timeously (Auditor-General, 2011:7-13). The management at the municipality and entities did not implement proper record keeping in a timely manner to ensure that complete, relevant and accurate information was accessible and available to support financial and performance (Auditor-General, 2011:15).

- (e) Refuse removal

The effectiveness of the municipal billing system was also compromised because according to the Auditor-General's audit, an amount of R695.8 million with regard to refuse charge was included in the R18.6 billion projected as service charge revenue. The municipality could not provide audit evidence in cases where source data and recorded billing data differed. The audit outcome could not verify billing details relative to actual bins per account holder by an alternative audit process and accuracy, occurrence and completeness of the revenue as such.

(f) Sale of water and electricity

Included in service charges of R18.6 billion was an amount of R867.3 million relating to the sale of water and electricity that was estimated for an extended period of time. Differences were identified between the billing data and the source data relating to meter readings without complete evidence to support the differences. The entity could not provide sufficient and appropriate evidence to confirm the basis for disregarding actual meter readings and use of estimates, and therefore, the accuracy and occurrence of estimated service charge revenue could not be confirmed by the audit outcomes.

(i) Consumer debtors

According to the Auditor-General, material differences were identified during the audit of the revenue from service charges, which raised uncertainties regarding the accuracy and occurrence of revenue and consumer debtors' financial data. To this end, the Auditor-General Report was unable to obtain sufficient and appropriate audit evidence to confirm the valuation and rights pertaining to consumer debtors of R606.9 million as indicated in the financial statements (Auditor-General, 2011:13).

(ii) Financial implications

The above state of affairs has financial implications for the revenue collection performance management due to the fact that there was no proper billing system or record management that provided for the maintenance of information which supported the reported performance including the collation, collection, verification, storing and reporting of actual performance (Auditor-General (2011:15).

(iii) Efficiency of municipal billing

There are a number of regulatory provisions that place the onus for ensuring the accuracy of municipal billing processes on the consumer or business, rather than on the municipality itself, which are very problematic in light of the large impact that an incorrect municipal bill can have on a business' cash flow (especially in the case of smaller business), and the time and effort required from the individual to follow up with the municipality particularly given the patchy track record of the City of Johannesburg Metropolitan Municipality call centre in following up on customer complaints (Tustin and Ligthelm, 2008:23).

The 2008 City of Johannesburg Metropolitan Municipality Business Satisfaction Survey¹⁵ asked businesses receiving accounts from the City of Johannesburg Metropolitan Municipality to rate clarity and correctness of accounts. Businesses who had received incorrect accounts were asked to rate the efficiency of the City of Johannesburg Metropolitan Municipality when dealing with such accounts. While the mean satisfaction score among large businesses was 5 out of 10, among small and medium businesses it was as low as 3 the report says.

The business survey undertaken by SBP asked businesses in Gauteng's three metropolitan municipalities to rank the extent to which administration of utilities infrastructure constitutes an obstacle to doing business including for example responses to queries, processing of applications and efficiency of the billing process. Over a third of businesses in Ekurhuleni rated this as no obstacle or a minor obstacle. In contrast, half of businesses in the City of Johannesburg Metropolitan Municipality rated inefficient administration of utilities as a major or very severe obstacle as did 45 percent of businesses in Tshwane (Tustin and Ligthelm, 2008:24).

Incorrect and inaccurate account billing constitutes a potentially considerable administrative burden for businesses, in addition to increasing the risk of businesses incurring high costs for services that they have not in fact used. Improved efficiency and prompt handling of complaints would help relieve the administrative burden of following up billing and service delivery queries (Tustin and Ligthelm, 2008:25).

(iv) The need to update systems and technology

The City of Johannesburg Metropolitan Municipality website notes that one of the factors contributing to delays in the processing of applications and approvals is the need for different municipal offices and licensing authorities to work with original documentation, often requiring processes to be undertaken sequentially rather than in parallel. There appears to be a strong case for a move away from hard copy, original documents, toward certified copies or, ideally, electronic documentation, to speed up processes and substantially reduce the opportunities for files/documents to go astray (Tustin and Ligthelm, 2008:26).

The mayor of the City of Johannesburg Metropolitan Municipality's assertion that only 8% of the more than 1 million users registered on the new Phakama billing system Project have registered queries, may not help those residents affected by the crisis (City of Johannesburg

Metropolitan Municipality, 2011). The Phakama billing system Project which was introduced five years ago is still being talked about despite the fact that it does not help the city to solve the billing problems seen from communities around the City of Johannesburg Metropolitan Municipality still complaining about the incorrect bills. The City of Johannesburg Metropolitan Municipality was at times dogged by problems of inaccurate billing and lower collection rate. In July 2007, during the Summit on Municipalities sustainable ways to bring financial viability, the city, had while acknowledging a steep rise in municipal debts indicated that the municipal billing systems were still a problem. The MEC for the Department of Local Government then indicated that part of the strategy was to get billing and debt collection to a level standard by conducting billing system data clean-ups (Johannesburg News Agency, 2007).

The above cited collections were also recorded in the statement of changes in equity as a prior year adjustment (Auditor-General, 2005). The Auditor-General rejected Johannesburg City Power and Johannesburg Water (Pty) Ltd's financial statements, questioning their revenue figures because of billing problems. Johannesburg's financial statements for the financial year 1 July 2009 to 30 June 2010 were submitted to the Auditor-General by 30 September 2010 and the audit was due for completion by December 2010. During the 2009-10 financial years, the city migrated from the Venus system previously used for billing and revenue management to the new revenue and customer relations management system on SAP-Phakama. While management had confidence in the reliability of the data submitted for auditing purposes, the Auditor-General sought assurance on the completeness of the revenue and therefore further auditing procedures were to be followed.

The deterioration in the ability of the Johannesburg City Power to measure consumption, bill and collect revenue resulted in a drop in the Johannesburg City Power revenue in the first quarter of 2010. This was compounded by poor planning and management of the process by the Johannesburg City Power. However, the scope of the billing problems indicated other reasons, such as the absence of urgent rectification of the billing problem, serious overbilling and inaccuracies. Customers had no access to the updated profile, statistical information and billing data as well as historical information for analysis purposes. In the absence of current usage information, companies were unable to effectively manage and conserve their power usage.

The City of Johannesburg Metropolitan Municipality also experienced a lower revenue collection and its ability to accurately bill and collect its debt deteriorated and indications

were that only a forensic audit would be able to determine the reasons for the problems at both Johannesburg City Power and the City of Johannesburg Metropolitan Municipality (City of Johannesburg, 2010). City of Johannesburg Metropolitan Municipality conceded their municipal billing system was problematic. This was indicated in media by the city stating that of the 60 000 logged billing queries, 35 535 have been resolved as part of the City of Johannesburg Metropolitan Municipality's commitment to resolve billing issues. However, it was not clear what would happen to the balance of 24 465 (Department of Local government and Housing Gauteng, 2011).

In trying to solve the municipal billing system challenges, the City of Johannesburg Metropolitan Municipality drafted a 19-month strategy to improve revenue collection and the accuracy of its billing system in an attempt to eradicate concerns from the ratepayers. It was indicated that a plan was put in place, with deadlines to be met and performance to be monitored seeking to resolve ongoing billing concerns. In terms of turnaround plan, the resolution of the City of Johannesburg Metropolitan Municipality's billing issues were divided into phases, the first of which would focus on quick wins and customer experience; Phase 2 would look at stabilising the billing system and the third phase would be devoted to maintenance and continuous improvement. To this end, the city's intention was to ensure pleasant customer and citizen experience and the main objective of the 19-month roadmap was to enhance efficiency in dealing with billing issues and to improve response times. It was apparent that as the deadline set in terms of the plan was June 2013, all billing backlogs and queries would have been resolved by then (City of Johannesburg Metropolitan Municipality, 2012).

The City of Johannesburg Metropolitan Municipality contended that the plan represented a step change for Johannesburg and would result in an integrated system which served the needs of the citizens and met the expectations of the city's customers, ratepayers and stakeholders. It would seem that the plan was a prompt or disaster reactionary response to deficiencies in the municipal billing system and revenue collection. The City of Johannesburg Metropolitan Municipality confessed that the internal processes had signalled that the quality of meter reading should be improved, as should turnaround times on resolving queries. The City also conceded that the turnover rate of frontline staff which was not ideal for revenue collection had also affected service delivery negatively.

It can be assumed that the billing system incorrectness and the impact on revenue collection was a challenge to the city to the extent that the city set a task team consisting of the chief of operation in the finance as the overall project manager, the City of Johannesburg Metropolitan Municipality's group financial officer, the chief executives of Johannesburg Water, City Power and Pikitup, the heads of departments of rates and valuations, revenue management and customer relations management to monitor the implementation of the roadmap. The Financial and Fiscal Commission (FFC) (2011:155), maintains that poor performance by municipalities regarding inaccurate billing and customer service mechanisms such as the above may serve to reinforce non-payment as those consumers who are able to pay become unwilling to pay. Lack of up-to-date records is the major obstacle to an increased financial reliance of local government (Serageldin, Jones, Vigier and Solloso, 2005:23).

Municipalities in South Africa are feeling the pressure of not correctly managing their revenue streams, which has resulted in service delivery protests and audits from the Auditor-General receiving particular interest in the press. The City of Johannesburg Metropolitan Municipality experienced that correcting a billing system can result in escalating costs. For the past 13 years, the City of Johannesburg Metropolitan Municipality has tried to resolve the crisis of its billing database. The City of Johannesburg Metropolitan Municipality announced in September 2011 that Operation Phakama billing system project, the IT billing system, would be fully operational within a year. The IT system costed around R500 million and should have been able to handle the 1.2 million accounts processed by the council. Data analysis does not necessarily need a massive capital outlay as in the case of City of Johannesburg Metropolitan Municipality but can be achieved through a methodical data management system that accurately identifies, tracks and rationalises billing abnormalities (Smartmetro, 2011).

For the purposes of this research, billing systems can improve revenue collection through the implementation in terms of putting reliable and cost-effective metering operation infrastructure on the ground. The volumetric charging will be most effective if all connections are metered and all meters are in working order since the billed invoices are based on metered consumption. An effective metering practice is equally dependent on how robust the practices are, such that the consumer cannot cheat the system by tampering or damaging the meters. It also depends on the repairs and replacement policy of the service provider for water meters, timely identification of faulty meters, and installation of meters even in poor and low-income settlements.

The City of Johannesburg Metropolitan Municipality addressed the problem of meter-based charging practices in communities by using prepaid meters. In September 2003, Johannesburg Water, launched the R450 (US\$60 million) Gcin'amanzi (Keep the Water) project. The aim of the project was to improve service delivery and cut down on vast water losses in and around the Soweto area. One of the initiatives included the installation of prepaid water meters for correcting the problems caused by inaccurate water readings and billing. If the Gcin'amanzi project was implemented fully, nearly 151000 stands in the Soweto area would have a prepayment water meter. As of early 2004, Johannesburg Water had installed 300 prepaid water meters in Phiri and 1 400 prepaid meters in Stretford Extension 4 (Agrawal, 2008:9). Macdonald, (2002) in FFC (2011:159), states that prepaid meters present the ultimate cost-recovery mechanism, as the service is paid for prior to using it and in essence prepaid meters represent an effective means of preventing defaulting on payments.

In concluding this section, the above billing crisis and commitment to turn it around in terms of the implementation of the 19-month plan remain to be seen. It is however, to the advantage of the public that the capacity challenge was cited as a serious problem by the City of Johannesburg Metropolitan Municipality and it is hoped that it will also be resolved by the above plan. The City of Johannesburg Metropolitan Municipality, in general and by implications, conceded that there was a huge municipal billing problem which impacted negatively on its revenue environment. The fact that a plan was crafted, deployment of the Phakama billing system project, IT system, indicates the acceptance of the municipal billing system problem.

5.2.4 Ekurhuleni Metropolitan Municipality

The Ekurhuleni Metropolitan Municipality has challenges with regard to the municipal billing system, which impacts on revenue collection. The challenges which emanated from the Auditor General's report for the period 2006/07 can be cited. The Auditor-General (AG) concluded in the audit of financial statements for the period 2006/07, that he could not verify the completeness and accuracy of rates and taxes, services charges and direct income revenue, listing of approved subdivisions and consolidations of erven within the municipal boundaries. The above information was requested by the Auditor-General in order to follow audit procedures, but was not provided, resulting in a limitation of scope to assess the completeness and accuracy of rates and taxes revenue; rates and taxes were charged based on old zonings and outdated land values instead of new rezoned property at the current value. Sufficient appropriate audit evidence could not be obtained for transactions tested in the sample and

there were no practicable alternative procedures that could be followed to quantify the number of misstatements.

To this end, some properties where rates and taxes were not levied, were identified by management, some properties and services were incorrectly billed for and various meters were identified where services were not levied and due to these, services, rates and tax revenue was understated by R100.9 million and in turn, accounts receivable were understated by the same amount. The Auditor-General could not clarify as to the valuation and existence of consumer and other debtors for proper billing. During the same year, indigent write-offs amounting to R364 million were recorded and appropriate supporting documentation was not provided for a number of debtors that were written off to support the indigent status in terms of the policy approved by council. Similarly, the completeness of the related accounts receivables was not supported by audit evidence. Sufficient, appropriate audit evidence to support the completeness and accuracy of income from agency services of R117 million could not be supplied by management, resulting in limitation of scope. Similarly the completeness of the related accounts receivables was not supported by audit evidence.

In terms of Section 62(1) (i) of the MFMA, the accounting officer must ensure that the municipality has and maintains effective, efficient and transparent systems of financial and risk management and internal control however, according to the Auditor-General's report, control activities such as reconciliation between the billing system and valuation roll were not always effective and adequate. This was evident from issues reported above relating to property, revenue collection and receivables. The control activities over the completeness of indigent debtors were not adequate and the indigent debtors system was not reconciled to the indigent database.

In concluding this section, it can be stated that the municipal billing system were not that forth coming in the Ekurhuleni Metropolitan Municipality. However, the highlights by the Auditor-General's report pointed to problems which the municipal billing system had with revenue collection and with public confidence in the Ekurhuleni Metropolitan Municipality for that particular period.

5.2.5 Nelson Mandela Bay Metropolitan Municipality

The Nelson Mandela Bay Metro Municipality (NMBMM) bills customers for water, gas, electricity, sewerage, general services; rates and refuse. According to the NMBMM annual

report and the Auditor-General's report for the period 2010/11, there were no challenges reported regarding billing systems and customers in the municipal area. However, Table 5-1 indicates that the rates and service charge debt age analysis reveals that debts owed to the municipality for debt ages 0-30 days, 31-60 days, 61-90 days and over 90 days.

Table 5-1: Accumulated debt of the Nelson Mandela Bay Metropolitan Municipality

Type of Service	0-30 days	31-60 days	61-90 days	over 90 days
Rates	33 477 926.00	21 074 990.00	16 136 687.00	376 683 907.00
Electricity	347 074 887.00	28 584 239.00	3 129 372.00	131 491 218.00
Water	154 085 687.00	39 034 695.00	20 673 548.00	274 392 491.00
Refuse	17 429 631.00	4 386 888.00	2 616 843.00	76 973 559.00
Sanitation	43 276.15	8 471 349.00	3 954 031.00	101 076 655.00
House Rent	2 129 395.00	482 191.00	387 500.00	13 032 488.00
Total	554 240 802.15	102 034 352.000	46 897 981.000	973 650 318.00

Source: Nelson Mandela Bay Metropolitan Municipality. Annual Report, 2010.

An analysis of the debts in terms of Table 5-1 shows that the debt, over 90 days have accumulated to R973 million as compared to the 61-90 days R46 million debts. A reason for the escalation of debts could be debt control and collection which impacted negatively on the residents' confidence against the will to pay for the services rendered and thus generate revenue. The annual report did not point out any challenges regarding the municipal billing system impact on revenue collection. The Auditor-General has not made any opinion with regard to the cause of the accumulation of debts in the Nelson Mandela Bay Metropolitan Municipality. Regarding the accumulation of debts, the NMBMM indicated in the report that it had severe pressures with the global economic meltdown, depletion of the capital replacement reserve and maintaining the collection rate at the targeted levels and financial affordability of external loan financing.

The decision and implementation of formal controls over the municipal IT system or billing system required improvement to ensure the reliability of the system and the availability, accuracy and protection of information, as there were control weaknesses relating to security management, user access control, program change management and IT service continuity (Auditor-General, 2011:13)

In view of the above, the inability of the municipality to maintain the collection rate as targeted leaves much to be desired and can be explored by future researchers to establish the actual cause of the debts as indicated. This matter will need future research to establish whether there were no municipal billing system challenges which could impact negatively or positively on revenue collection in the metro.

5.2.6 City of Tswane Metropolitan Municipality

With the establishment of the City of Tshwane Metropolitan Municipality in December 2000, the municipality inherited various different debtor billing systems, which were not integrated with the financial system. According to the City of Tshwane Metropolitan Municipality (2005:426), the problems started when the council introduced a new integrated computer billing system. The City of Tshwane Metropolitan Municipality dealt with billing problems and had more than halved the number of customers with municipal account difficulties. The City of Tshwane Metropolitan Municipality indicated that of the 36 438 customers affected with billing issues, 15 379 still remained to be fixed, meaning that a total of 21 059 customers had their accounts resolved. It can also be indicated that the 36 438 households affected was a huge voting number, which could not be left unattended and it could have had a huge impact on revenue collection of the city and affect public confidence.

The different debtor billing systems created an environment where cumbersome manual controls had to be implemented to ensure sound financial control. The amalgamation of these disestablished municipalities into one municipality also created other challenges which the city was still in a process to resolve. In November 2004, the council approved the implementation of an integrated transaction processing system that replaced the legacy financial system and the various legacy debtor billing systems. The new system resulted in a number of challenges, for example, data had to be updated, reports had to be developed and processes tested. One of the biggest challenges the City of Tshwane Metropolitan Municipality had to face was the debtor management and billing system. Due to the large consumer basis of the City of Tshwane Metropolitan Municipality the purification of data was still ongoing.

In concluding this section, the state of municipal billing system and revenue collection leaves much to be desired in that communities complained about the incorrect and inaccurate bills which were issued to them and the debts were ballooning. However, the municipalities tend to be defensive when dealing with incorrect bills stating that consumers exaggerate the state of

bills whereas the bills were incorrect. In the end, the debts accumulated due to the fact that consumers were not willing to pay for incorrect and inaccurate bills.

5.3 CHALLENGES CITED BY EXTERNAL ORGANISATIONS

The advisory committee and the parliamentary adhoc committee on co-ordinated service delivery have a role to play in ensuring that the oversight role takes its course even from Parliament and various legislatures in the nine provinces. As the municipal billing system, its incorrectness, inaccuracies, public outcry and such related challenges have attracted the public interest drastically, it was imperative for such committees to attend to the concerns because it affected public confidence. These organisations joined the members of the public and cited challenges such as public participation, debt and indigent management and consumer debtors as critical areas affecting the municipal billing system to have a positive or negative impact on revenue collection and enhancement.

In Gauteng, the advisory committee on the state of municipal finances revealed in the financial year 2003/04 that there was a continuous non-implementation and upgrading of the municipal billing systems, which was also cause for concern (Advisory Committee Report, 2005:12). During her budget vote, the MEC for the Department of Local Government in the Gauteng province indicated that the provincial journey began with the conceptualisation of innovative ideas to deal with historical challenges facing municipalities.

The report of the Parliamentary Ad hoc Committee on co-ordinated oversight on service delivery discusses Section 95 of the *Municipal Systems Act (32/2000)*, which stipulates that there is a need for accurate billing systems through meter reading in order to issue regular and accurate consumer accounts (Parliament of the Republic of South Africa, 2010:38). According to the Parliamentary Ad hoc Committee Oversight Report (2010:38), municipalities still struggle to comply with the provision of the *Municipal Systems Act (32/2000)* due to the following: poor billing systems, poorly functioning as a result of monthly consumer accounts delivered late and often inaccurate, unsystematic collection of service fees (Parliament of the Republic of South Africa, 2010:38).

The stakeholders as analysed above, attest that there were challenges with regard to the municipal billing systems in municipalities. The area of concerns relate to inadequate billing, debt management, low revenue base; poor billing systems, poorly functioning as a result of monthly consumer accounts which were delivered late and often inaccurate and unsystematic

collection of service fees. This state of affairs points to the serious challenges facing municipalities across the board.

5.4 BILLING SYSTEM AND REVENUE COLLECTION PERFORMANCE

Rao (2012:1), states that billing processes play a critical role in revenue collection for a number of public sector organisations, such as municipalities. In the delivery of public services, for example, billing drives cash flow and is the key source of information for customers using these services. In many countries, reforming billing processes, coupled with strengthening collection processes, has improved revenue collection. Most of the evidence about the role of billing in revenue collection comes from the water sector.

For the purposes of effective billing systems and its positive impacts on revenue collection, it can be argued that billing systems based on consumption are more likely to be paid by individual users (USAID, 2005:14-17). In the water sector, this could take the form of universal adoption of water metering or spot billing (Agrawal, 2008:10). Other measures to improve revenue collection are computerising customer databases and billing systems. Misra and King (2012:19) argue that human handling should be eliminated from all billing processes to prevent fraud and billing errors and in addition, some advocate prepayment as a means of increasing collections. Rather than billing after service consumption or usage, it may be better to employ prepayment system. This can ensure payments for services as well as help households monitor and plan their expenditures. This may be more important when providing services for poorer customers, who may also benefit from the option of phased payment facilities and/or debt counselling (Blore, Devas and Slater, 2004).

A strictly enforced disconnection policy for utilities, to deal with those who default in making payments will also help ensure payment compliance. USAID (2005:14-17) argues that in relation to the delivery of services, billing is the principal mechanism that drives all cash flow and is the main source of customer information. Billing is thus critically fundamental for a municipality to succeed. When much of the municipality revenue comes from the delivery of services, the municipality needs to bill customers regularly and accurately. Payment invoices that reflect the true nature and quantity of services delivered are more likely to be paid.

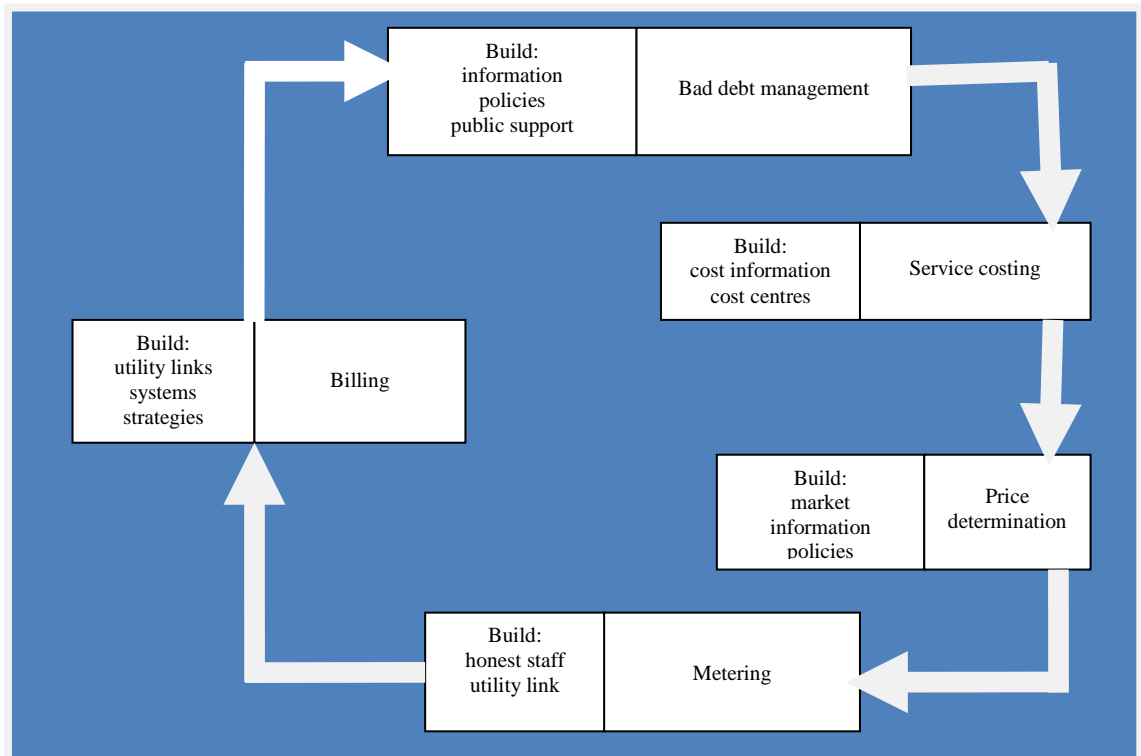
Agrawal (2008:1) argues that improving billing, as well as collection services, will have a swift impact on the revenue streams of a service provider. In relation to the provision of water and sanitation, the author argues that any successful billing practice must ensure that bills are

raised on a monthly basis and based on volumes. This way customers pay for what they consume. This is best carried out through the adoption of a 100 % metering of customer connections. Effective billing and collection systems that are based on these principles can bring about immediate improvements in revenue streams.

To this end, it can also set incentives for a service provider to effectively charge and collect bills while providing a commercial orientation to services. Other critical components include customer databases, tariff and billing structures, delivery of bills and facilities for customer payments. In particular, it is essential that providers have updated, robust and computerised customer databases. Using improved technology, such as spot billing, could further ease the billing function, thus improving collection efficiencies and eventually revenue streams. At the same time it is important to note that the institutional arrangements under which service providers operate and provide services determine whether such practices will remain sustainable in the long term. In the shorter term, where there is weak capacity, it may be worth outsourcing billing and collection to private parties with relevant experience, if available.

Blore *et al.*, (2004:93-94) state that the difference between payment in advance and ex-post billing is a crucial distinction, and the first method is the only truly excludable method. To improve collection levels from poorer customers, it may be better to include drip-feed payments e.g. prepayment meters, phased payments to counter short-term fluctuations in income, positive bad debt recovery programmes and debt counselling services in income, positive bad debt recovery programmes, debt counselling services. Better billing can ensure that what is put into any service delivery system is paid for in the end, providing stronger revenue streams. For example, Kingdom, Liemberger and Marin (2006:36) highlight the issue of the considerable difference between the amount of water put into the distribution system and the amount of water billed to consumers. This can be termed as 'non-revenue water' and is a common problem with the water systems of developing countries. The high levels of non-revenue water are due to huge volumes of water being lost through leaks, water not being invoiced to customers, or both.

Figure 5-1: Revenue cycle and capacity building



Source: Rao, S. 2012:4. Adapted from, the Impact of municipal billing systems on revenue collection. Governance and social Development centre, University of Birmingham.

Kingdom *et al.*, (2006:36) estimate that worldwide, close to 30 million cubic metres are delivered every day to customers, but are not invoiced because of theft, employees' corruption and poor metering. This affects the financial viability of water utilities through lost revenue and increased operational costs. The importance of improving meter reading and billing cannot be over emphasized, noting that a significant portion of commercial losses arise from mistakes in the meter reading and billing chains, because of poor technology, obsolete property registers and data handling errors, among other things.

Misra and Kingdom (2012:18) argue that meter reading and billing errors, whether involuntary or resulting from fraudulent practices, should be eliminated by limiting the human handling of data. They argue that well-tested commercial software available on the market should be preferred to what they define as "home-grown" (i.e. locally built) ones. Municipalities should comply with disconnection and reconnection procedures to prevent the accumulation of large unpaid arrears. Also, particular attention should be paid to those customers that often constitute a large part of arrears. They suggest that to reduce billing

fraud, tariffs should be uniform and at the same time they note that for political expedience, a “lifeline”, or reduced tariff can be proposed but this must still try to cover operating costs, create an incentive to be financially responsible and have an upper consumption limit sufficient for basic needs.

In concluding this section, the concerns as cited by other organisations regarding billing challenges cannot be taken lightly as this indicates the seriousness of the municipal billing system challenges and its impacting on revenue collection in the system of local governance. The state of affairs result in negative public confidence and the municipal billing systems impact on revenue collections indicated by the community members’ complaints, strikes and protests marches. It is therefore apparent that public participation in municipal billing systems and revenue collection is neglected. However, lessons from the international setup indicate that through the proper planning and implementation of billing systems, processes and procedures, the billing system can impact positively by improving the revenue collection in municipalities.

5.5 DEBT MANAGEMENT

Debt management as it relates to property rates and service charge accounts is a critical accounts management which is input into the municipal billing systems. According to the National Treasury (2011a:61) the increase in debt owed to municipalities which range from outstanding property rates, charges for municipal services and the non-recovery thereof is seen as a serious threat to the cash flow management, financial viability and sustainability of municipalities. The problems associated with the recovery of outstanding debt differ from one municipality to another. Municipalities must therefore embark upon a holistic and structured approach to develop regulations relating to municipal billing systems and revenue collection, which could be implemented. The approach should be underpinned by continued debt analysis and focus on the credibility of billing data. It is critical to state that the information from the main accounts must be correct and accurate so that the revenue collected is positive.

To this end, the presence of the escalating debt is a key indicator of non-performance.

There are various reasons contributing to non-payment of services. However, the most critical reasons are: administrative ineffective meter reading, billing and billing systems, no proper registration of indigents, lack of enforcement of credit control and debt collection policies and in part attributed to political interference. There are incidents where local politicians put pressure on the administration to relax credit control policies, especially with regard to

services disconnection and socio-economic reasons, which cannot be over-emphasised (FFC, 2011:142). The income levels of many customers as determined in the municipal consumer economic profile expose a challenge. There are customers who cannot afford to pay for services. To this end, the focus should be on improving debt and credit management and service delivery efficiency. It can also be coupled with the focus on service delivery efficiency and indigent management, integrated with local economic development.

The ability of municipalities to ensure a proper municipal billing system, maximise revenue and develop infrastructure is often negatively affected by issues such as inefficient day-to-day processes, insufficient knowledge of the indigent reality, inadequate technology, a lack of data integrity, unreliable and time-consuming manual processes, inconsistent credit control measures, a culture of non-payment and a lack of capacity and skills. It is of paramount importance to indicate that the size and age of outstanding consumer debt is an important indicator of both household poverty in a municipality and the quality of municipal governance.

FFC (2011:142) states some urban taxes are politically sensitive, thus affecting the willingness of municipalities to assess and collect such taxes effectively and to enforce sanctions on defaulters. One of the challenges facing municipalities is the management of existing and escalating debts, while also considering and providing for the needs of the poor citizens. In the public discourse, the focus is often on operational issues such as poor revenue collection, debt burdens and lack of financial management capacity. It is stated that more than 60% of consumer debt is owed to the six metropolitan municipalities. Because three of these metropolitan municipalities are in Gauteng; it is not surprising that the level of consumer debt is the highest in this province.

Table 5-2 shows an increase in municipal debts. This can be attributed by the declining confidence of the public that has shown in the municipal billing system, which impacts negatively on revenue collection. The indigent management has a bearing on the accumulation of debts and this can be offset by the free basic indigent grants, which are allocated through the equitable share to municipalities. These grants should not have a serious impact on revenue collection if it can be managed effectively. To this end, it would mean that the billing records are incorrect and need data cleansing regularly.

Table 5-2 also shows the debtors' age analysis with regard to debts by customer groups for metropolitan municipalities and reveals that the government owed metropolitan municipalities

16.0% for 0-30 days, 5.5% for 31-60 days, 3.9% for 61-90 days and 74.6% for over 90 days; businesses owed metropolitan municipalities 32.1% for 0-30 days, 5.6% for 61-60 days, and 26.1% over 90 days. The metropolitan municipalities must seriously recover outstanding debts from business if they wanted to get all the income from business. The household sector shows that 11.5% is owed for 0-30 days, 3.9% for 31-60 days, 2.8% for 61-90 days and 81.8% for over 90 days. The contribution by indigents must be further researched as they contribute heavily to non-payments; in terms of the other debts, 10.7% is owed to metropolitan municipalities for 0-30 days, 1.7% for 31-60 days, 4.3% for 61-90 days and 83.2% for over 90 days.

Table 5-2: Debtors age analysis by customer groups for metropolitans

R thousands	0-30 Days		31-60 Days		61-90 Days		90 Over Days		Total		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Debtors age analysis by customer group												
Government	204,108	16.00%	69,872	5.50%	50,256	3.90%	953,787	74.60%	1,278,023	3.50%	2,063	2%
Business	3,067,019	32.10%	531,487	5.60%	392,743	4.10%	5,556,370	58.20%	9,547,619	26.10%	2,051	-
Households	2,722,698	11.50%	916,869	3.90%	662,792	2.80%	19,295,243	81.80%	23,597,601	64.40%	8,129	-
Other	234,468	10.70%	37,532	1.70%	95,277	4.30%	1,824,206	83.20%	2,191,482	6.00%	231,284	10.60%
Total	622,293	17.00%	1,555,760	4.20%	1,201,067	3.30%	27,629,605	75.50%	36,614,724	100.00%	243,526	0.70%

Source: National Treasury: 2011b:11. Local government Revenue and Expenditure for period ended 30 June 2011 fourth Quarter Local government Section 71 report (Preliminary Results) (1 September 2011).

5.6 IMPACT OF LEGISLATION ON THE MUNICIPAL BILLING SYSTEMS AND REVENUE COLLECTION

Legislation can have an impact on the planning and implementation of the municipal billing system and revenue collection in municipalities. This section will highlight critical pieces of legislations that have an impact on debts and revenue collection. Municipalities throughout the country have used various means at their disposal to collect outstanding debt due to them, including the implementation of provisions that were contained in ordinances that were applicable to the relevant provinces. However, with the rationalisation of the old-order legislation by provinces and the repeal of certain laws by national legislation, municipalities have experienced difficulties in collecting arrears for municipal services and rates. The application of legislation can have a positive impact on the municipal billing system and revenue collection if the pieces of legislation are planned and implemented effectively through proper enforcement of the legislation to its fullest means. The legislation which enhances the municipal billing system, debts and revenue collection is discussed in the following sections.

The *Constitution* provides the legal backing for local government to charge property taxes. A property tax is a guaranteed source of revenue for local government if Section 229 of the *Constitution* is read correctly. Additionally, provinces are prohibited from levying such a tax at provincial level, according to Section 228 of the *Constitution*. The *Constitution* states in the preamble the need for local government to have access to a “sufficient” and “buoyant” source of revenue to fulfil its “developmental responsibilities”. In terms of Sections 27(1) (b) and 152 of the *Constitution*, municipalities are obliged to ensure the provision of services to communities in a sustainable manner. In giving effect to this constitutional demand of service delivery, a municipality must give effect to the provisions of the *Constitution* and give priority to the basic needs of the local community. The mirror image of this constitutional obligation and entitlement to members of the community to receive such services is the duty, where applicable, to promptly pay service fees and taxes levied by the municipality.

With regard to *Public Finance Management Act (95/1999)* it applies only to National and provincial government departments; public entities listed in Schedules 2 or 3; constitutional institutions; Parliament and the provincial legislatures. The PFMA is not applicable to local authorities and thus it does not have an effect on the effectiveness of revenue collection in the municipalities.

With reference to the *Municipal Finance Management Act (56/2003)* the following question can be asked to determine the effectiveness of the MFMA as it relates to revenue collection in municipalities: Are there any independent and relevant procedures in either the *Municipal Finance Management Act (56/2003)* relating to debt collecting procedures? The *Municipal Finance Management Act (56/2003)* is essentially designed to secure sustainable management of the financial affairs of a municipality and to regulate treasury norms, standards and accountability. In theory, failure by officials of a municipality to implement by-laws and recover debt so that a particular municipality has sustainable cash reserves for the benefit of service delivery to its inhabitants, could amount to financial misconduct in terms of the *Municipal Finance Management Act (56/2003)*. It can be stated that the MFMA is effective and efficient in terms of its intention to regulate municipal finance and revenue collection in metropolitan municipalities, however, the implementation which needs to be executed by municipal administration and supported by political leadership is found wanting and shows weakness in the majority of instances.

Municipal Systems Act (32/2000) establishes a framework for planning performance management systems, effective use of resources and organisational change in a business context, report on their performance and provides residents with an opportunity to compare this performance, a municipality exercises its legislative or executive authority by developing and adopting policies, plans, strategies and programmes; by providing municipal services to the community by imposing and recovering rates, taxes, levies, duties, service fees and surcharges on fees, including setting and implementing tariff, rates and tax and debt collection policies and by passing by-laws.

It is thus of critical importance in terms of *Municipal Systems Act (32/2000)*, to recognise that it is compulsory for municipalities to adopt policies and by-laws. Section 74 states that a municipality is enjoined to adopt a tariff policy on the levying of fees or charges for municipal services, which policy must reflect, for instance, that the users of the services should be treated equitably and that the amount individual users pay for services should generally be in proportion to the use of that service and the tariffs be reasonably associated with the rendering of the service. Provision is also made in appropriate circumstances for a surcharge on any tariff. Section 75 of the *Municipal Systems Act (32/2000)* enjoins a municipality to adopt by-laws to give effect to the implementation and enforcement of its tariff policy. Section 95 of the *Municipal Systems Act (32/2000)* provides that in relation to the levying of rates and other taxes by a municipality and the charging of fees for municipal

services, a municipality must, within its financial and administrative capacity, establish a customer management system and adopt a policy with regard thereto.

Section 98, enjoins a municipality to adopt by-laws to give effect to the foregoing and, in terms of Section 98(2), the by-law referred to may differentiate between different categories of rate-payers, users of services, debtors, taxes, services, service standards and other matters as long as the differentiation does not amount to unfair discrimination. The by-laws must also deal with the supply of municipal services and service agreements, credit screening, method of payment and billing, termination of service agreements, the assessment of rates and powers to implement debt collecting mechanisms on non-payment of municipal accounts.

Section 104 of the *Municipal Systems Act* (32/2000) simply provides that the Minister may make regulations or issue guidelines (provided there has been prior consultation with organised local authority as envisaged in terms of Section 120); the purpose of such regulations and/or guidelines dealing, in broad terms, with the following: the manner in which accounts to rate-payers and users of services are rendered and what particulars are to be contained in such accounts; municipalities may take action to secure payment of accounts that have not been paid on due date and which become due, owing and payable, such action including, but not limited to: the termination of any municipal services or the restriction of such services until such time as the account has been brought up to date; the attachment of any property in respect of which there is an outstanding charge relating to services and/or rates; the attachment of the rental payable by a tenant to the owner of a property where there are outstanding rates and charges; whether or not personal liability should ensue where the owner and/or occupier is a corporate or other separate legal entity and whether such liability extends to directors, members and/or trustees.

In terms of the provisions and efficacy of Section 118 of the *Municipal Systems Act* (32/2000), more particularly with regard to debt incurred by occupiers in respect of service charges relating to such a property the following can be deduced: a registrar of deeds may not register the transfer of property except on production to that registrar of deeds of a prescribed certificate issued by the municipality or municipalities in which that property is situated; and which certifies that all amounts that became due in connection with that property for municipal service fees, surcharges on fees, property rates and other municipal taxes, levies and duties during the two years preceding the date of application for the certificate have been fully paid. An amount due for municipal service fees, surcharges on fees, property rates and other municipal taxes, levies and duties is a charge upon the property in connection with

which the amount owes and enjoys preference over any mortgage bond registered against the property.

The effect of Section 118(3) is the creation of a statutory charge or preference. Section 118(3) creates the preference which is not subject to the restriction of the preceding two years referred to in Section 118(1), which two years relate to the furnishing of a clearance certificate for the purposes of transferring a property. To this end, where an owner of property wishes to transfer his or her property to another, prior to the Registrar of Deeds registering such transfer in the relevant Deeds Office, a municipality must be approached for a certificate which certifies that all outstanding municipal charges and fees for the preceding two years have been paid.

The above is an effective means of insuring that payment of outstanding fees and charges are made, even if it means that indirectly the new purchaser who never incurred the fees and charges would have to pay therefore in order to obtain transfer of the property into his name. For the purposes of Section 118(3), it therefore does not matter when the particular secured debt became due. In respect of renting of the property and that person incurring a debt, a municipality could recover the debt from the actual recipient of the service, the tenant, or the owner of the property. Utilising the provisions of Section 118(3), whether the tenant is issued or the owner of the property, or even a previous owner, the property may be attached.

Insofar as rates are concerned, the *Municipal Property Rates Act (6/2004)* provides in Section 2 that a municipality may levy rates and in Section 3, provides that a municipality must adopt a policy consistent with the Act when levying rates. Pursuant to the provisions of Section 6 of the *Municipal Property Rates Act* a municipality must adopt by-laws to give effect to the implementation of its rates policy. To this end, the *Municipal Property Rates Act (6/2004)* provides sufficient adaptability and resource for local authorities to implement policies relating to the recovery of service tariffs and rates charges. It is therefore incumbent upon a municipal council to adopt by-laws to give effect to the implementation and enforcement of its tariff policies and collection of rates. Such by-laws are capable of creating adequate mechanisms for local authorities to recover service charges and rates and even contain similar procedures as previously contained in the so-called Section 105 procedures of ordinances.

Nothing contained in the *Electricity Regulation Act (4/2006)* to restrict a municipality from collecting amounts outstanding in respect of electricity and even to take measures such as the discontinuing of a service in the event of persistent non-payment. Similarly, in respect of the

supply of water, there is nothing in the present legislation which would unduly restrict municipalities.

The *Water Services Act* (108/1997) postulates procedures for the limitation or discontinuation of water services, but merely provides that the service provider (agencies or municipalities) must set in place procedures which are fair and equitable and provide for reasonable notice of intention to limit or discontinue water services and for opportunities to make representations, unless other consumers would be prejudiced or there is an emergency situation or the consumer has interfered with a limited or discontinued service.

The *Municipal Systems Act* (32/2000) provides for the adoption of a credit-control policy for municipalities that will provide for the termination of services in the event of non-payment. Municipalities have the power to pass by-laws to implement the policy. It is critical that municipalities adopt, maintain and implement a credit control and debt collection policy which is consistent with its rates and tariff policies of that particular municipality. To effectively manage its credit control and debt collection functions, it is a requirement for municipalities to have by-laws and policies approved and implemented.

It closing this section, it would seem that the challenges faced by metropolitan municipalities are the capacity to implement billing systems, revenue collection and enforcement of debt collection using the above pieces of legislation. These pieces of legislation are clear in terms of what must be done but the problem is the enforcement of these laws and promulgation of regulations to support the Acts, which leaves much to be desired in the system of local governance. This is a challenge which municipal administration and political leadership must meet.

5.7 CONCLUSION

In concluding this chapter, the municipal billing system challenges are among others caused by the inaccuracy and incorrectness of the bills. The extent to which the bills are correct will determine the financial sustainability of the municipality. It is imperative to indicate that not all issues of the municipal billing systems are indicated by the Auditor-General audit work. This show the strategic approach the Auditor-General uses towards municipal billing issues and concomitant public confidence when dealing with critical audit work in municipalities. Moreover, information technology applications are designed in such a way that municipal

billing systems are capable of having critical modules which can deal with all service accounts which are used for billing and any other information in the municipality. The municipal leadership must plan for a state-of-the-art municipal billing system, which can impact positively on revenue collection.

This chapter provided challenges and opportunities as are apparent in the municipal billing systems and revenue collection of the City of Johannesburg Metropolitan Municipality, Ekurhuleni Metropolitan Municipality and the Nelson Mandela Bay Metropolitan Municipality. The challenges in particular were also discussed by the stakeholders in government, which shows that there is indeed a municipal billing system problem which has a serious impact on revenue collection in municipalities and which needs to be solved. The chapter that follows will conclude the work analysed in the previous chapters and provide a recommendation in terms of the shift in policy imperatives where applicable.

CHAPTER 6 : CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

The study analysed the impact of the municipal billing system on revenue collection in selected South African cities. This chapter provides a review of the study analysis, evaluation of the research objective and recommendations.

It is critical to evaluate the preceding chapters of this research in order to provide an understanding of the value of the study on the impact of the municipal billing system on revenue collection in selected South African cities. The preceding chapters analysed profound issues as they relate to local governance systems namely: legislation, policies, procedures, structures, intergovernmental relations and functions, municipalities and council, public administration and its environmental factors, spheres of government, financial administration and standards, municipal billing systems, municipal functions, elements of municipal billing systems, sources of revenue, deficiency in municipal billing systems and information technology, municipal billing systems challenges in the three metropolitan municipalities, debts accumulation, billing system and revenue collection performance, debt management and impact of legislation on municipal billing systems and revenue collection.

Chapter 1 provided the outline of the study in terms of providing a historical background of local government in South Africa as it relates to the interim and transitional phase, establishment phase, consolidation phase, local government finances, legislative mandates, municipal financial systems, municipal billing systems, revenue collections, problem statement, research objectives, research methodology, sample study or population, relevance of the study, limitation of the study and organisation of the study.

Chapter 2 focused on the conceptualisation of public administration as a function and discipline; role and development of public administration describing the first, second, third generation scholars; new public administration; development of municipal government and administration, generic administrative processes as critical environment where municipal billing systems and revenue collection are located, such as policy-making, organising, financing, personnel, procedures and control, relevance of public administration to municipal administration in terms of highlighting the origin of the state, need for a state and the role of

the state. This chapter concludes with a focus on the environment of public administration regarding the political, social, economic, technological and international environment.

Chapter 3 outlined the structural analysis of the municipalities in South Africa focusing on the spheres of government. The spheres of government are stipulated in the Republic of South African *Constitution*. The chapter highlights critical issues regarding the spheres of government from 1910 to 1993. The chapter also discussed the allocation of functions, intergovernmental relations, local government fiscal framework and structures, municipal planning functions, devolving of functions to municipalities, purpose and key local government systems, powers and functions of municipalities, municipal structures, profiles of the three case study municipalities of the City of Johannesburg Metropolitan Municipality, the Ekurhuleni Metropolitan Municipality and the Nelson Mandela Bay Metropolitan Municipality and elements of municipal billing systems.

Chapter 4 focused on case studies of the selected metropolitan municipalities regarding the following issues, namely sources of revenue of municipalities such as property taxes, service charges, borrowing or capital financing, which are impacted by the municipal billing systems, the generation of revenue, the Division of Revenue Act, revenue trends in the selected municipalities, information on billing systems and the case studies on the municipal billing systems in the City of Johannesburg Metropolitan Municipality, Ekurhuleni Metropolitan Municipality and the Nelson Mandela Bay Metropolitan Municipality.

In chapter 5, the case study metropolitan municipalities were analysed regarding the impact of municipal billing system on revenue collection. The challenges of revenue collection, municipal billing systems, billing system and revenue collection performance, debt management, trends regarding debts in the selected cities, impact of legislation on municipal billing systems and revenue collection were analysed.

Chapter 6 concludes the analysis in terms of providing the conclusion and recommendation of the research. The study highlights at high level, pertinent issues regarding the impact of the municipal billing system on revenue collection in the selected cities. Conclusions and recommendations were provided in various chapters. Based on the analysis made in the chapters, it is apparent that there are pertinent strategic issues which need a policy shift, such as on credit control, paradigm shift with regard to staff attitude, capacity building, setting up steering committees and the standardisation of systems.

The City of Johannesburg Metropolitan Municipality, Ekurhuleni Metropolitan Municipality and the Nelson Mandela Bay Metropolitan Municipality are faced with municipal billing system and revenue collection challenges. This relates to incorrect and inaccurate municipal bills sent to customers which led to lost revenue. Public confidence with regard to municipal billing systems declined and communities were not willing to pay for the incorrect and inaccurate bills issued and thus the municipal billing system had an impact on revenue collection in the selected South African cities. In order to solve a research problem, a number of recommendations are proposed.

6.2 EVALUATION OF STUDY ANALYSIS

It will be imperative to evaluate the analysed study in order to gain insight into prior or existing initiatives, reflect and assist in the identification of future change that will help in decision-making; or to ascertain the degree of achievement or value in regard to the objectives and results.

6.2.1 Evaluation of the research objectives

The research objectives were evaluated and the following came to light:

6.2.1.1 Research objectives

The research objectives of the study emanating from the research problem were as follows:

- (i) to analyse the impact of the municipal billing system on revenue collection;
- (ii) to analyse the sources and types of revenues that can be impacted by the municipal billing system;
- (iii) to analyse the implication of the legislation on the municipal billing system and revenue collection; and
- (iv) to make policy proposals for best practices in the municipal billing system and its impact on revenue collection in the selected South African cities.

The above objectives of the research were achieved in that the challenges pertaining to the research problem of the incorrect and inaccurate municipal bills were to a large extent identified in the study. The municipal billing system was analysed by investigating the

problems in the public administration of the selected cities, where the municipal billing system takes place and the environment was analysed.

Based on the analysis, it is clear that there are pertinent strategic indicators recommending a policy shift. The areas are standardisation, integration, improving data responsibilities, shifting paradigm, enforcement of regulations and legislation, ministerial oversight steering committee and debt collection.

The municipal billing system was analysed in chapter 1 to chapter 5. The conclusions relating to the general objectives of the research will be drawn from this analysis. The research outlined the historical background of local government in South Africa, as it relates to the interim phase, transitional phase, establishment phase, consolidation phase, local government finances, legislative mandates, municipal billing systems, revenue collection, the problem statement, objectives of the study, research methodology, study area or sample population, relevance of the study, limitation of the study, study organisation and conclusion.

6.2.2 Conceptualisation of municipal billing systems on revenue collection

Accurate municipal billing for services is a critical constituent of the municipal revenue management feature. The legislative framework provides that municipalities must be sustainable and in order to do that municipalities must have municipal billing systems as a financial application that can act as a tool for municipal revenue collection. Without the municipal billing system, manual collection of revenue has to be done and as such bills or invoices have to be processed by hand and will not reach customers in time for them to pay for services rendered. Incorrect bills generated through the use of manual invoicing systems can create problems and draw complaints from taxpayers as members of the public.

In the light hereof, the billing system is paramount to this research as it can negatively or positively impact on revenue collection depending on whether it is continuously monitored, evaluated and managed. The current municipal billing system does not optimally make provision for the dynamic revenue collection in the selected South African cities and the country's diverse public financial management system. Municipal billing systems are critical instruments for the success of correct data, clean bills and positive revenue collection input into it as well as the improvement of public confidence in the system of local government. It is imperative that the billing must be done accurately, as invoices that do not reflect the true nature and quantity of services delivered will probably result in non-payment. The billing

function must be considered as the principal mechanism that drives all cash flow, the main source of customer information and fundamental to the success of any municipality's financial sustainability.

6.2.2.1 Revenue collection

Revenue collection depends on the integrity of the metered service delivery and accurate billing. A sound local government revenue system is even more important for sound local government finance than a robust expenditure system. The ability of municipalities to maximise revenue and develop infrastructure is often adversely affected by inefficient day-to-day processes, insufficient knowledge of the indigent reality, inadequate technology or systems, a lack of data integrity, unreliable and time-consuming manual processes, inconsistent credit control measures, a culture of non-payment and a lack of capacity and skills.

It is important to appreciate and highlight the trends regarding revenue collection and debts in various municipalities in order to give a general picture of municipal revenue administration in the country. The trend in the accumulation of debts might be the result of the dwindling public confidence which mainly emanates from the incorrect and inaccurate bills.

6.2.2.2 Sources of revenue

The revenue sources of municipalities and other income being internal and external generated will be impacted by the sound or poor quality municipal billing system under any financial period. Own revenue sources are paramount to the sustainability of the municipality if they are effectively exploited and collected. The municipal billing system will impact negatively on the revenue sources such as the property rates, service charges, levies, borrowing grants and other sources in the event that the billing information input from the metering operation into the billing system is incorrect or inaccurate.

Incorrect and inaccurate bills will impact on the public confidence in that communities will protest against the incorrect or inaccurate bills and the revenue of the municipality will not be entirely collected and as such the debts will accumulate and reach a state of irrecoverability. The grants transferred to the municipality and borrowed by the municipality will be overstated or understated. In case of borrowing, this may also affect the terms of the loan which will be incorrect and the interest calculated will also be affected.

In the field of the municipal billing system continuum and revenue collection, the vertical equity, horizontal equity, ability-to-pay principle, economic principle, financial principle, efficiency principle, simplicity principle and enforceability are imperative especially when the municipality has to plan for the billing processes, procedures and systems that can impact on revenue collection.

The political leadership must ensure that the political dichotomy of revenue collection in the municipality is dispelled and that the selected municipalities have financial systems and municipal billing systems in place. However, should debts continue to plummet, this can be cited as ineffective planning and implementation of the municipal billing system. If the functionalities or billing elements are not compatible with the municipal billing system, not configured and planned properly it will have a negative impact on the data to be input into the municipal billing system and thus affect revenue to be collected negatively.

6.2.2.3 Challenges of municipal billing system

The existence of the challenges in particular to incorrect and inaccurate bills and the accumulation of debts have also been acknowledged by stakeholders in government. The stakeholders as analysed in Chapter 5 above, attest that there were challenges with regard to the municipal billing systems in municipalities, citing the area of concerns relating to inadequate billing, debt management, low revenue base; poor billing systems, poorly functioning as a result of monthly consumer accounts which were delivered late and often inaccurate and unsystematic collection of service fees.

The challenges faced by metropolitan municipalities are serious, namely the capacity to implement billing systems, revenue collection and enforcement of debt collection using of legislation. The pieces of legislation is clear in terms of what must be done but the problem is the enforcement of the laws and promulgation of regulations to support the Acts, which leaves much to be desired in the system of local governance. This is a challenge which municipal administration and political leadership must resolve.

It is imperative to indicate that not all issues of the municipal billing system challenges have been identified and mentioned in this study as this study was not an all-embracing research regarding the day to date operations of the selected cities. When the Auditor-General audits municipal financial statements, in most cases, the Auditor-General does not highlight the

audit outcomes of the municipal billing incorrectness and inaccuracies. Moreover, information technology applications are designed in such a way that municipal billing systems are capable of having critical modules which can have all the service accounts which are used for billing and any other information in the municipality. The municipal leadership must plan for a state-of-the-art municipal billing system, which can impact positively on revenue collection. There is indeed a municipal billing system problem which has a serious impact on revenue collection in municipalities which needs to be solved.

6.2.3 Municipal financial administration and spheres of government

The proper municipal financial management must adequately control the total level of revenue and expenditure and appropriately allocate municipal resources, supported by a quality municipal billing system as is planned and implemented by the municipality. Municipal financial administration and the structures in the context of the spheres of government are therefore critical.

The spheres of government that can support the local government municipal billing system and revenue collection exist. These spheres should support the municipalities through the Intergovernmental relation systems when planning and implementing government programmes and systems. The local government spheres can achieve this through the roles and responsibilities accorded by the Acts of Parliament and the strategic environment in which these spheres find themselves and ensure that sound financial management and good governance are applied to local government.

The key local government system must ensure that financial reporting mechanisms are there for sound financial practice in terms of the information which needs to be input into the municipal billing systems. The municipal structures namely: council, mayor, municipal manager, executive committee, ward and proportional representative councillors, Chief Financial Officer, general municipal management, budget and treasury office in the municipal government and administration are also critical in terms of ensuring and providing leadership for best financial management practice regarding the municipal billing system and revenue collection. Without the municipal leadership playing its good governance role, municipal billing systems will continue to impact negatively on revenue collection.

The socio-economic profiles of the three metropolitan municipalities gave a better picture of the data such as profiles to be input into the municipal billing systems, which can be used for

planning and implementation so that billing systems impact positively on revenue collection. The elements of the municipal billing systems are of paramount importance to the success of the municipal billing systems and revenue collection, if planned and implemented effectively in terms of billing accuracy, integrity of processes, cycles, metering operations and management, IT security, billing procedures, communication with taxpayers.

6.2.4 Impact of legislation on municipal billing system on revenue collection

Legislation may also constrain the planning and implementation of the municipal billing on revenue collection. The legislations analysed were aimed at assisting to determine whether legislation can have positive or negative aspects in impacting municipal billing system on revenue collection. The *Municipal Financial Management Act (56/2003)* in particular was enacted to secure sound and sustainable management of the financial affairs of the municipalities and also establish treasury norms and standards. For the purposes of this research issues of promotion of good budget and fiscal management and monitoring of revenue collection, integration of any systems of financial management, maintenance of effective and efficient transparent systems of financial and risk management and internal controls by municipalities. The above is also complemented by the *Municipal Systems Act (32/2000)* as it relates to effective revenue collection systems. It would seem that the challenges faced by metropolitan municipalities are the capacity to effectively plan and implement billing systems, revenue collection and enforcement of debt collection using the above pieces of legislation.

6.4 RECOMMENDATIONS

Municipal billing systems are critical instruments for the success of correct data, clean bills and positive revenue collection and the improvement of public confidence in the system of local government. It has been revealed in this research that there are trends regarding revenue collection and debts in various municipalities and the selected metros in particular that give a general picture of municipal revenue administration in the country.

The trend in the accumulation of debts apparently might be the result of the impact of the municipal billing system on dwindling public confidence, which mainly emanates from incorrect and inaccurate bills. The National Treasury (2011b:20), states that an aggregate of municipal consumer debts amounted to R75.5 billion as at 31 December 2011, of which

national and provincial governments' contribution represents 4.7 % or R3.5 billion. Households accounted for the largest component of consumer debtors, namely 63.9% or R48.2 billion. As at 31 December 2011, the outstanding debt due to metropolitan municipalities was R44.5 billion. This represents an increase of R7.7 billion or 20.9% from the second quarter of the 2010/11 financial year. The City of Johannesburg Metropolitan Municipality's share was R13.9 billion or 31.2% of all metropolitan municipalities. This state of affairs has therefore pointed to problems with regard to the municipal billing system and revenue collection in the selected cities.

The research identified the following: the problem of arrears as occasioned by the incorrect bills issued to customers such as the lack of effectiveness of oversight monitoring and control, steering policies and policy-making, procedures, intergovernmental accountability and responsibility challenges regarding the planning and implementation of the municipal billing systems and revenue collection, planning and implementation of legislation with regard to the municipal billing system and revenue collection

The following are the proposed recommendations which will enhance the municipal billing system: performance improvement programming, standardisation of the information technology, block mapping and GIS, establishment of a national steering committee, development and enforcement of available municipal procedures, policies, regulation and legislation, staff and leadership paradigm shift, debt collection, effective municipal and revenue collection strategies especially as they relate to the municipal billing system in the system of local government. These recommendations are of paramount importance in that if properly planned and implemented, they will improve the municipal billing system to impact positively on revenue collection and enhance strategic issues to improve revenue collection in municipalities. In order to address the research problem the following recommendations are hereunder discussed:

6.4.1 Recommendation on the reduction of debts and the improvement of the municipal billing system

6.4.1.1 Recommendations on the incorrect municipal billing system

It is important that the municipality must have a programme dealing with customer account layouts with a view of simplifying them. Provide training to ward committees on all aspects of municipal billing system regarding the compilation and layout of accounts. The need to

timeously clean corrupt static data such as customer names and addresses, debtor and property classification, inactive accounts, correct meter reading, property valuations, verify the existence of all customers that may affect the billing integrity.

6.4.1.2 Recommendations regarding standardisation and integration

Effective integration and standardisation of all municipal billing systems are not only possible, but are in fact an imperative for municipalities to become sustainable in the fulfilment of their mandate, namely the effective and efficient delivery of services. It must be noted that, despite this complexity, intensive activity is occurring at the local interface, as local government leaders deal with daily decision-making which derives good results when it comes to the municipal billing system transformation and adaptation. Although this activity is often not in keeping with the intentions of the designers of the system, it should not negate its existence.

It is imperative that the standardisation and integration of the system which is used by the end users and local government at the local interface provide feedback to the policy-makers on the system's functioning, which might then inform action that will positively impact the operation of the system. To the extent that feedback does not formally occur, it seems to be operating informally. From research beyond the current analysis it is clear that many policies in the municipal billing system did not have their origin in local and national innovation. It is suggested that innovations which have occurred in the absence of high-level knowledge are packed and captured as policies in ways that fundamentally recognises and encourages the local and national innovation.

Local government leadership is one of the many decision-makers in a position to use advanced information systems to gain a greater understanding of the portfolios it manages. This understanding result in better decision-making and additional income being generated through previously un- and underbilled clientele being charged for the services they receive. Revenue enhancement objectives drive municipalities to find systematic ways to uncover irregularities in their billing databases, which will result in increasing revenue from their existing customer base.

Municipalities can benefit significantly from revenue enhancement tools that organise their extensive and readily available data, which until now has been left unattended. Municipal billable asset and consumer information is available from various sources and becomes useful

through experience and skilled collation, cross-checking and analysis. The creation of a single database that is complete, current and accurate is essential for proper analysis and effective decision-making. Once this is achieved, the municipal management is empowered to make decisions and take actions that are guaranteed to improve the billing and substantially increase the revenue.

It is therefore recommended that there should be interrelated principles that have the potential to strengthen the adaptive capacity of the municipal billing governance system, particularly through engagement and feedback in local and national practice. It is to seek a better match between decentralised municipal billing governance functions and local capacity. There must be connectivity which seeks improved information flows and relationships as the basis of informed decision making; and accountability which seeks clearer definition of power relationships as they pertain to the standardisation and integration of the municipal billing system in the local governance system. It must be indicated that no claim is made that these are the only principles and all require further research and development through the case study analysis in South Africa.

Unless there is an understanding of the effects of the municipal billing governance system in limiting or enabling municipal billing system development, the creation and vertical implementation of program standardisation and integration and solutions are likely to have limited success, and may well exacerbate the municipal billing system and revenue collection challenges. Rather than fixating on the right policy solution, policy-makers must focus more on adaptive municipal billing systems in the field of local governance. The national government has put in place large internally facing transversal systems to manage the operations of government payroll, financial management and supply chain management. However, these are mainly applicable to the national and provincial levels of government which can also be replicated in local government.

There were about 20 primary and countless other systems in use in the country in the government transverse systems domain with an annual cost to the state of about R1.1 billion. Overtime a number of challenges have emerged with the transversal systems including the fact that they were not able to deal with the current realities. On this basis, a process was established by the Department of Public Service and Administration as well as the National Treasury to create an integrated financial management system and this can be done with regards to the municipal billing system integration and standardisation.

Conversely, at municipal level the picture is bleak because there is inadequate discussion about such integrated financial systems being used for the municipal billing systems which is critical in the light of the fact that there is currently dwindling public confidence a result of the incorrectness and inaccuracies of the municipal billing system in municipalities. Due to the history and fragmentation of 278 municipalities, the deployment of information communication technologies varies substantially between these municipalities. In general, it would be the larger urban municipalities covering large areas which would have systems in place to manage payments, revenue collection and debt management, registration, as well as manage their internal operations while small municipalities are likely not to have systems in place to assist them to operate like urban municipalities. However, many of these small municipalities do not view information communication technologies as crucial because they focus more on basic needs such as water, sanitation and roads (Misuraca, 2007:226-235).

According to Jakobs, Protector and Williams (2001:252-262), strong relations and dependencies exist between standardisation, innovation and the subsequent implementation of information communication technology systems. The activities must not be considered separately especially as standard-based components play an increasingly important role when the implementation processes are also dealt with. Technological tools in general and especially such powerful representatives as IT systems will exert a potentially strong impact on their environment. Complex interaction should be observed where technology may assume both an active and a passive role; that is, technological tools and their environment are mutually interdependent. The environment within which technology is used and employed has, among others, social, cultural, societal and organisational behavioural rules and norms. To this end, it is clear that technology cannot merge completely independently from external influences.

However, it must be stated that changing from one environment to another need careful planning and strategies. To this end, before installing any best practice it is useful to review the existing environment to see if the implementation has a reasonable chance to succeed. The municipality should determine whether the environment in which the best practice is to be installed will also have a fair chance of continuity to succeed. It is critical to consider alterations to package software, custom programming, and inadequate preparations of the organisation, intransigent personnel, and lack of control points, lack of funding, lack of planning, lack of success with earlier efforts, lack of testing of the system and lack of support of top management. On the basis of the above, there is a need for standardisation and

integration of municipal billing systems that will in the end yield maximum revenue for a municipality.

6.4.1.3 Recommendations regarding block mapping and the GIS

Municipalities lack a well-structured mechanism for the identification of properties and points of supply. This calls for a proper mapping and geographic information system. Such a system would improve operational efficiency in the identification of new connections, meter reading, bill distribution and following up of revenue collections, disconnections and reconnections. The multiplicity of data and processes in a municipality makes data responsibility difficult when there are many departments needing and using the same data. An integrated system hugely helps with data currency, because only one set of each data is needed, which is then accessed by all who need to use it (Blore, Devas and Slater, 2004:130).

A computerised system of billing and an updated and complete customer database is a must if municipalities are looking to maintain high billing efficiencies. Municipalities must also ensure that customer databases are updated and computerised, through robust accounting, record keeping, regular systematised checks and billing procedures. A geographic information system mapping can help in updating customer records and getting a robust record of all properties and hence all potential customers. If such systems are absent because of poor data in customer records, municipalities cannot charge all served customers. In certain cases, while customer records may be available they may not be computerised, since customer records are often maintained in log books of the various operating divisions of municipalities, which are then difficult to use for keeping track of billing and payments.

Municipalities must focus on getting a complete computer listing of the customers they serve, by mapping and updating records not only of existing customers but also of customers who have illegally connected to the network or of people who could be connected to a network, but are currently coping with alternative means. An improved customer database can also generate reliable data that can inform the decision making process of municipalities.

The computerised system should also allow municipalities to track customer records by its respective management unit that is, by zone, ward, circle, district, and so on. It should also allow municipalities to understand, monitor and study historical trends so that improvements can be brought about in areas that require attention. The system should also allow for

monitoring and tracking exceptions in billing records namely extraordinarily low or high consumption that may be genuine or may be a result of stopped or faulty meters, water vending practices and illegal connections tapping in. Tracking billing exceptions will also allow for a thorough investigation for understanding the reasons behind the exception and will help in taking adequate steps for rectifying the issue.

6.4.1.4 Recommendations regarding paradigm shifting

Systems are only used effectively when people have the will and the knowledge to do so. Implementations therefore require not only effective technical training but an educational component so that users can grasp the value of the system, and understand their role as a part of the whole. This revelation of purpose must, however, be accompanied by a behaviour change process, so that the prevailing culture of fraud and neglect can be transformed into one of honest caring. The opportunity gaps must be closed for these at-risk behaviours existing in the current deficient municipal billing system, with a tightly integrated in order to prepare the work force in attaining a positive work attitude, a well-structured and all-encompassing initial staff and management workshop must be carried out to instill change of attitude and stretch speed, simplicity, worker involvement and teamwork concepts among municipal staff and political leadership in municipalities.

Any successful billing practice must ensure that bills are raised on a monthly basis and should be volumetric-based, such that customers pay for what they consume. This makes it mandatory for municipalities to adopt a 100% metering of all its customer connections. Municipalities must realise that an effective billing and collection system in terms of these principles can bring about immediate improvements in revenue streams. However, to ensure that such practices remain effective, it is essential that municipalities have updated, robust and computerised customer databases such that the billing function can be easily implemented.

Outsourcing can improve the municipal billing system and revenue collection in the system of local government (Blore, Devas and Slater, 2004:85). Using improved technology like spot billing could further ease the billing function, thus improving collection efficiencies and eventually revenue streams. Outsourcing or putting certain essential processes, like billing and collection, in the hands of companies that have proven expertise in such fields enables municipalities to focus on the more important functions and core activities for improving the quality of services. Such functions are outsourced to a separate company that remains wholly responsible for the entire billing and collection function including debt management either

through service contracts that are adopted only for this or through other contracting forms where the entire service obligation is outsourced to a third party (Fjelstad, Katera and Ngalewa, 2008:1-7).

Realigning staff members and their job responsibilities so that they could perform their job more adequately is critical. Municipalities have to balance meter readers' time and work schedules between billing and collection activities. Staff members have to be redistributed so that they have equal work pressures, as opposed to a situation where only a few meter readers were overstretched in achieving their set revenue targets while others are not. Using performance incentives for improving billing and collection practices, by linking remunerations directly to efficiencies as achieved is also critical (Blore, Devas and Slater, 2004:95).

There is a need to develop effective billing and collection practices in the municipal billing system continuum. If the targets are achieved, staff members can be rewarded financially or are recognised for being part of the best operating entities. Such initiatives will create peer pressure, which can generate healthy competition for improved revenue performance and overall increases in revenues for the municipalities. Municipalities also need to create incentives and disincentives so that consumers make payments on time. Imposition of fines, partial disconnection and a complete cut-off of the connection can be used by water service providers to put in place credible threats for defaulters and illegal connections.

Customers could be encouraged to pay on time through the use of discounts and rebates for early payments, or easy payments of bills for consumers through options such as customer centres, collection centres, online payment facilities, through facilities such as kiosk machines, electronic clearance systems, internet banking facilities and integrated service delivery initiatives. Implementing e-governance initiatives would require the municipality to find innovative ways of kick-starting the initiative through private sector participation in the sharing of capital and operating costs with the private partners. Technical arrangements for such cases would, however, need to give special attention to the entire software development process.

Such initiatives should not be implemented in a hurry without complete re-engineering of back-end processes of all participating stakeholders. Robust, high-capacity servers and network bandwidth for growing volumes of transactions are essential to avoid delays and long waits during peak hours. Some of these initiatives could also be implemented through a

contract that leaves no room for ambiguities in contract specifications. Some service-level agreements with private partners could be put in place so that service quality that has to be achieved by the private party could be monitored. There are many elements to implementing improved billing and collection practices that could be adopted by service providers. When a billing and collection system functions well, it not only generates increased revenues that can help improve services, it also capacitates the generation of reliable data that can inform the strategic planning process of the municipalities for ensuring that such improvements in services remain sustainable in the long run.

Municipalities can improve billing and collection practices by implementing various mechanisms. Municipalities must significantly improve their billing and collection practices if they are to become financially viable and sustainable for delivering continuous improvements in the quality and standard of services. While they must focus, at their individual level, on specific measures to ensure improvements, such efforts will remain short-lived and unsustainable unless they are coupled with institutional reform for management as well as operational autonomy and accountability. Municipalities must understand the principles and components that govern an effective and efficient billing system. Effective billing and collection practices depend on many internal factors, which are under their control. These are among others, customer databases, levels of metered and unmetered service provision, billing structures and cycles, practices and delivery, staff capacity, involvement, efficiency in municipal billing and collection and facilities for customer payments (Agrawal, 2008:6-23).

A municipal monthly billing system based on a volumetric structure is one of the mechanisms to be used. For example, an effective billing system must have a billing cycle that bills customers on a monthly basis, in certain places collection is practised daily. In doing so, municipalities must accord adequate detail for ensuring appropriate and structured monthly billing by validating bills that are raised, especially when it comes to invoicing the correct person and for the right amount. Sending a bill to the wrong person or posting inaccurate bills could push payments back by 30-60 days since all processes would need to be repeated, thus undermining the effectiveness of a monthly billing system. The billing system should also be based on a volumetric structure such that customers are billed for the water, for example, that they consume. All volumetric charging practices are based on meter readings and hence require that consumers should have metered connections and ensure that such a practice remains effective. To this end, municipalities must further ensure that meters work reliably and read on a periodic basis.

6.4.1.5 Recommendations regarding streamlining processes and procedures

It must be mentioned that in the global village, municipalities across the world are encouraged to streamline their operations, improve financial efficiency, enhance customer care and improve overall service delivery. Traditionally, billing systems at municipalities are treated as a standalone service, where a large amount of data is fed into a system to produce the necessary accounts. Municipalities must take a close look at their existing billing systems and practices. One of the best ways for municipalities to improve customer satisfaction is by providing options to their customers, allowing for the customisation of the billing service. This state of affairs can be followed by a streamlined and integrated approach to municipal billing and financial management, which can help to reform the operations, reduce delays and eliminate manual entry of data.

An integrated data management system must provide accurate monthly consumption data that uses current metering investment in extracting the readings to improve billing and revenue collection, as well as to put municipalities in a position where they can offer their customers value-added services. An effective billing solution needs to be integrated with various field-level activities to create the necessary discipline. The development and designs of billing systems are merged with all the essential components required for an effective billing system into an integrated best-of-breed solution to meet the requirements placed on utility companies by the rapid expanding of competitive pressures.

Before a bill is produced, all the relevant detail is checked such as customer category namely industrial, commercial or domestic; basis of billing namely conventional; prepayment; time-of-use; account holder's name; address detail; electrical address; account number; bill number; contract conditions; meter details; payments detail; consumption; corrections; security deposit details and commencement information. This information is compatible with the functionality which was described under billing system section in Chapter 4 of this research.

Infrequent billing or billing at intervals which do not meet community income cycles has a serious effect on the ability of the community, especially the poor to pay. The result is that there is a lower percentage of recovery of billed amounts. A large bill is more difficult to pay as compared with several small bills. In addition, the small number of geographically dispersed collection centres leads to the poor rate of settlement of bills.

The collection of water charges could be increased by reducing the billing frequency from annual to monthly or bimonthly levels making it similar to the cable connection bills. This suggests that a billing and collection system should be decentralised to the door-step of the consumer, matching the billing cycle with the paying capacity of the consumer, which would lead to higher collection efficiency. Another measure for improving the collection of water charges could be to reduce the number of bills and to devise a mechanism for converting individual households into group user or bulk consumer, which needs further examination.

6.4.2 Recommendations with regards to policy shift

The analysed pieces of legislation in Chapter 5 are clear in terms of what must be done but the problem is the enforcement of these laws and promulgation of regulations to support the Acts, which leaves much to be desired in the system of local governance. This is a challenge which municipal administration and political leadership must meet. It would be imperative especially for the purposes of this research to propose a policy shift with regards municipal billing system regulation regarding government structures, and enforcement.

6.4.2.1 Recommendations regarding government structures

A political level discourse regarding the municipal billing system is critical and long overdue. There is a need for the government to create a steering committee of the Minister, Members of the Executive Councils responsible for local government, Mayors, and Member of Municipal Councils (MMCs) for finances as an initiative to try to standardise the municipal billing system technology for the purposes of effectiveness and efficiency of the municipal billing system and to enhance public confidence in the local governance systems. One of the major objectives of the institutional reform of the municipal billing system should be to establish long-term financial viability through increased efficiency and effectiveness.

The above is necessary for a number of reasons: to alleviate the burden on the state of having to react all the time when there is public outcry about the municipal billing system; to make it possible for the local government to generate enough revenue to finance part of the future capital expenditures; to bring the indebtedness to a level compatible with the local government's capacity to service it; and if sufficient revenue can be generated, to attract private investors to finance an increasing part of future investment needs.

According to Misuraca (2007), information and communication technologies (ICTs) are bringing about major changes in the way in which local and regional authorities operate, interact and communicate internally or with other administrations, enterprises and citizens. As the closest level of government to the citizens and the main providers of public services, local and regional authorities are in the frontline in the development of e-government and e-initiative. At national level, there are currently large information systems, including the national population register, a deeds register, National Traffic Information Systems (NATIS), systems to manage welfare grants, subsidies as well as systems to manage tax collection and liabilities, which have been implemented. The responsibility for these systems resides within the appropriate government departments that manage the introduction of the systems through budget allocations made to it directly.

Policy-makers if given an opportunity, should focus not only on establishing the conditions under which innovation regarding standardisation and successful practice occurs at local government level, but also on the feedback loops that permit the system to be adaptive to inputs as they emerge especially from the taxpayers, to evolve into a process of adaptive local governance system. This type of approach will be one of fostering enabling conditions, permitting local government organisational learning, and recognising that excessive control and intervention without feedback to the taxpayers can be counterproductive. To this end, the political leadership as members of the proposed steering committee will be strategically positioned to address the municipal billing system and revenue collection challenges.

6.4.2.2 Recommendations regarding the enforcement of procedures, policies, regulation and legislation

Billing and collection systems are effective only when they work in a controlled environment (Burden and Rose, 2003:1-17). Currently, municipalities lack any enforcement of gazetted policies and procedures governing the whole commercial cycle. It is important therefore that commercial policies and procedures developed are enforced to guide and standardise the commercial operations of municipalities. There is a need for enforcement of legislation so that municipalities are able to collect all the revenue outstanding. Coupled with that, there is a need for legislation for the integrated municipal billing systems which could ensure legislative enforcement. Developing of regulations for the municipal billing system is an area which can be acted on and improved by the authorities and a further research is critical.

6.4.2.3 Recommendations regarding debt collection and control and by-laws

There is a need for greater improvement in recovering outstanding debts. This can be done through enforcing of legislation irrespective of whether there is political influence and interference in the metropolitan municipality or not. Municipalities have to sustain in the long run and without income they will cease to exist and it will be impossible to provide the much-needed services to the community. Future research is therefore suggested especially because business also owes much money to metropolitan municipalities. This research will help to understand the root causes. According to Bragg (2005:11), one of the chief causes of confusion not only within credit management but also between the credit and sister departments is the lack of consistency in dealing with customer credit issues.

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