INVESTIGATING THE FACTORS AFFECTING REVENUE COLLECTION: A CASE STUDY OF ERONGO REGIONAL ELECTRICITY DISTRIBUTOR COMPANY

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ABSTRACT

The purpose of this study was to investigate the factors that affect revenue collection at Erongo RED. The Regional Electricity Distributors (REDs) in Namibia face numerous non-technical problems of which inadequate revenue collection is one (Von Oertzen, 2009). The researcher used a descriptive survey research design which uses both the quantitative and qualitative methods in conjunction with data collection instruments such as questionnaires and interview guides, with a sample of 120 respondents. The research participants in the study were employees and customers of Erongo Regional Electricity Distributor Company (Erongo RED). The results obtained from the study highlighted the key factors that were considered the causes of inadequate revenue collection such as non-technical losses which include- inaccurate billing, illegal connection and tampering with meters, among others. The study recommends that future researchers should attempt to develop revenue protection and recovery strategies for REDs in Namibia and also compare if what they find is what is happening in other Africa countries and in global communities. It would also be research worthy to establish if other REDs in Namibia experience the same challenges as far as revenue collection is concerned.

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This thesis is dedicated to:

My late Grandfather: Tatekulu Gabriel Palipawa Mankono

My Grandmother: Kuku Elina Nemulipo Amupanda

For their patience, love, and unwavering support and encouragement throughout my childhood till the university years and for valuing education so much even though they never had any opportunity to attend a classroom lesson themselves; for the academic foundation that they laid in me which has helped me to climb higher. It would have been difficult without such a firm academic base. Tatekulu (Grandfather), your wish was to see me graduate with a Ph.D.; I will definitely do that in your honour. Your legacy will live forever.

DECLARATION

I, Tuulikki Nangula Nghifikwa hereby declare that this thesis is a true reflection of my own unaided work and that this work or part thereof has not been submitted for a degree in any other institution of higher education. Any assistance that I have received has been duly acknowledged in the study. No part of this thesis may be reproduced, stored in any system, or transmitted in any form, or means (e.g. electronic, mechanical, photocopying, recording or otherwise) without the prior permission of the author, or the University of Namibia on that behalf. I, Tuulikki Nangula Nghifikwa, grants the University of Namibia the right to reproduce this thesis in whole or in part, in any manner or format, which The University of Namibia may deem fit, for any person or institution requiring it for study and research, providing that the University of Namibia shall waive this right if the whole thesis has been or is being published in a manner satisfactory to the University.

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ACRONYMS AND ABBREVIATIONS

CENORED   Central North Regional Electricity Distributor

ECB   Electricity Control Board

ERONGO RED   Erongo Regional Electricity Distributor

ESKOM   Electricity Supply Commission

IPP   Independent Power Producer

KEDS   Kosovo Energy Distribution Services

LAs   Local Authorities

MME   Ministry of Mines and Energy

NAMPOWER   Namibia Power Utility company

NEF   National Energy Fund

REDs   Regional Electricity Distributors

SADC   Southern African Development Community

SECC   Soweto Electricity Crisis Committee

SPSS   Statistical Package for the Social Science

UNDP   United Nation Development Programme

ZETDC   Zimbabwe Electricity Transmission and Distribution Company

CHAPTER ONE

1.1 INTRODUCTION AND BACKGROUND OF THE STUDY

Revenue collection is very crucial for the survival of any organisation. All organisations undertake revenue collections to meet their budgetary obligations. This study examined factors affecting revenue collection by analysing and determining the impacts Erongo Regional Electricity Distributors (Erongo RED) encountered because of inefficient revenue collection (Erongored annual report, 2016). The major financial problem facing many Regional Electricity Distributing companies in Namibia is the insufficient collection of service fees due to widespread non-payment (Iita, 2013). McDonald (2002) argues that "the problem is so huge in SADC that Soweto residents in South Africa were on strike to protest cost recovery and privatisation." The fundamental effort of the Namibian government is that of service delivery.

This study is very crucial in Namibia, as the research will contribute to the knowledge production in the sense that it will expose the challenges faced by REDs in revenue collection. This will also determine if there is a need to introduce more ways of collecting revenue amongst REDs.

The Namibian energy white paper of 1998 revealed that REDs are required to administer the affairs of energy in their area of jurisdiction. The constitution of Namibia, article 111 articulates that every citizen is entitled to better service. Namibia has concentrated on the effective and proficiency delivery of services to the citizens. The rural and urban people

have been deprived of essential services such as water and sanitation, housing, electricity and health facilities.

According to Ndyamuhaki (2013), successful revenue collection means that the ultimate objective of the organisation must be well defined. Authors like Ndyamuhaki (2013) and Kwesi (2012) explain several factors affecting revenue collection in other contexts which include non-payment, administrative inefficiency, political interference, corruption, poor planning, and budgeting. However, this phenomenon is still uninvestgated area of research in Namibia, particularly in Erongo RED, hence the reason for the study.

1.2 STATEMENT OF THE PROBLEM

According to Von Oertzen (2009), the Regional Electricity Distributors (REDs) in Namibia face numerous non-technical problems of which inadequate revenue collection caused by inaccurate billing is one. Other problems include non-payment of services rendered and the bypassing of meters among others (Iita, 2013). The Erongo RED annual report (2016) revealed that illegal connections and theft of copper wires resulting in considerable damage to the electrical infrastructure and networks was another challenge. In addition, the other factors which were presumed to affect revenue collection negatively are administrative and socio-economic, for example, administrative errors, poor service delivery, rapid urbanisation, poverty, high unemployment, corruption, and political rivalry (Mavhungu, 2011). Given the challenges at Erongo RED, it is possible that if they persist into the future, they might fail to meet obligations such as the ability to purchase energy and the ability to upgrade networks (Erongo Red annual report, 2016). It should be noted that current empirical research does not back these views, perceptions, and speculations.

This study therefore sought to provide empirical evidence on the factors that affect revenue collection at Erongo RED

1.3 OBJECTIVES OF THE STUDY

The main of the objective of the study was to investigate the factors that affecting revenue collection at Erongo RED.

The sub-objectives of the study were:

- To examine the challenges Erongo RED faced which impeded the collection of revenue

- To assess the reasons why some consumers failed to pay for services rendered, and

- To establish the relationship between revenue collection and service delivery

1.4 SIGNIFICANCE OF THE STUDY

The study provides empirical information and possible answers to specific challenges faced by Erongo Regional Electricity Distributors (Erongo RED). In this way, it therefore helps management of the organisation and other similar organisations to find ways to confront the challenge of revenue collection. Moreover, an improvement in revenue collection would benefit the stakeholders since Erongo RED would be able to implement projects and upgrade networks. The study will set a foundation for other researchers in the future to carry out further studies in the same field that may lead to new findings to enhance a further understanding of the problem investigated in this study.

1.5 LIMITATIONS OF THE STUDY

This study is a case study of the Erongo Regional Electricity Distributor (Erongo RED).

The research was therefore not generalized to other Electricity distributing companies in

Namibia. The study was conducted within Erongo REDs various offices in Erongo

Region. The target population was limited to Erongo RED employees and customers only.

1.6 DELIMITATIONS OF THE STUDY

The delimitations of the study are related to the sample setting and location, and this

reduced the scope of the survey. The scope of the study was limited to an investigation of

the factors affecting revenue collection at Erongo RED. The study was conducted at

Erongo RED offices in Erongo Region. Customers and employees of Erongo RED

constituted the population of the study.

1.7 OUTLINE OF THE STUDY

This study consists of five chapters as follows:

Chapter 1 presents an introduction or orientation of the study, research problem, research

objectives, the significance of the study, limitation of the study, and the conclusion.

Chapter 2 presents a comprehensive literature review divided into appropriate headings

and sub-headings to give a broader theoretical knowledge on the subject.

Chapter 3 presents the methodologies followed in conducting the study such as the

research design, population, sampling methods, and the research instruments used to

administer, collect, analyse and present data.

Chapter 4 makes a presentation of the research findings and data analysis. The data is

discussed and presented using tables, graphs, and various chart types.

Chapter 5 presents the conclusions and recommendations.

1.8 CHAPTER'S SUMMARY

The chapter first discussed the background of the study, highlighting the problems that Erongo RED face pertaining to factors affecting revenue collection. Secondly, the chapter discussed the problem statement, objectives and the sub-objectives that help to give the scope of the extent of the analysis that need to be done. The significance of this research was presented. Other issues that were covered include the limitations and delimitations of the study. An overview of each chapter of the study was also presented. The next chapter presents a review of relevant literature.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter reviews past studies on factors affecting revenue collection in general. The purpose of the review is to position the study to current discourse around factors affecting revenue collection and related management problems in the Regional Electricity Distributors globally. The review was guided by research objectives aimed to address the following dimensions: challenges and factors which impede revenue collection, reasons for non-payments as well as the relationship between revenue collection and service delivery. Moreover, it also helps to identify any gaps that may be in the past studies and in so doing the study underscores the significance of the need for undertaking it and how it might contribute to filling such gaps.

2.1 DEFINITION OF KEY TERMS

Revenue is income that a business has from its normal business activities, usually from the sale of goods and services to customers. Revenue is critical as it determines to a substantial extent how much money will be available for spending. Revenue is also referred to as sales or turnover. The enterprise acquires something in exchange for providing goods and services to customers. Provided, also, that these goods and services represent a significant operation of the enterprise (FASAB, 2005).

Revenue collection includes a collection of revenue, customer management, debt and credit management and indigent registration and management. However, Brautigam, (2008) argues that revenue collection includes preparing and issuing bills and informing debtors on amounts through sending demand notices. A significant portion of local government customers are indigent and therefore cannot afford to pay for services. This has to be factored into financial planning and strategy development (USAID, 2007).

2.2 REGIONAL ELECTRICITY DISTRIBUTORS

According to the Energy White Paper, (1998), the concept of REDs is not new and has been successfully implemented in many developed countries. In South Africa, the idea of establishing REDs started in the early 1990s but has not been fully implemented. Local authorities in South Africa have a constitutional right to supply electricity. In Namibia, this is not the case and this is widely regarded as the reason for Namibia's success in the establishment and operationalization of 3 of 5 REDs so far. The concept of REDs in Namibia started to appeal to electricity industry stakeholders in 1998; almost twenty years ago**.**

The ECB website, https: www.ecb.org.na states that; RED is a regional electricity distributing company tasked with supplying electricity to the residents in a specific region. A Restructuring study completed by the Ministry of Mines and Energy (MME) in 1998 recommended that Namibia is divided into five areas. The single electricity distributor is established for each area solely responsible for electricity distribution in that area. All the existing distributors in such an area then joins the RED. The benefits of the consolidation of distribution businesses are:

- Economies of scale – duplication of costs and systems will be avoided and electricity can be supplied at lower prices;

- Uniformity of standards, tariffs, and service within a single RED;

- Improved capacity since the RED will be able to focus on its core business (i.e., electricity) solely, and will be able to employ sufficient and suitably qualified people and systems;

- Improved efficiency and financial viability of the whole distribution industry; (i.e.) improved customer service;

- Creating conducive conditions for the achievement of Vision 2030; and

- Uplifting the rural standard of living through improved electricity service delivery in rural areas.

To consolidate all distribution in an area, all electricity distributors in such area voluntarily join their electricity businesses in a single entity that will eventually take over their distribution functions. The Namibian Cabinet approved the establishment of REDs in Namibia in 2000- (ECB website, 2018).

2.3 SOURCES OF REVENUE FOR REGIONAL ELECTRICITY DISTRIBUTORS IN NAMIBIA

Electricity Act No 4 of 2007 makes provision of sources of revenues and the management of funds and resources of Regional Electricity Distributors and other matters connected or incidental to securing the proper management of finances in the Electricity Supply Industries. The Regional Electricity Distributors-REDs are responsible for the distribution and supply of electricity to consumers within their respective areas. REDs have been given

the power to raise revenue through various recourses as laid down under section 4 (2) (3) (4) of act No 4 of 2007. These sources are:

- Revenue received in respect of electricity sales

- All levies received in respect of ECB and NEF levy,

- Money payable to the RED in respect of Network Access and Demand charge,

- All money derived from temporary connections, special connections, cable connections, and reconnection after a breach of contract,

- All fees in respect of late payment, clearance certificate, account print out, RD Cheque and debit order rebate,

- All receipts delivered from any trade, rental of transport equipment to other utilities or customers,

- All money representing proceeds of the products sold by the RED,

- Fines and penalties for violation of by-law of the RED,

- Interest received in respect of late payment.

2.4 THE KEY SERVICES PROVIDED BY REGIONAL ELECTRICITY DISTRIBUTORS (REDS)

The drive to consolidate the Namibian electricity distribution industry is a Government initiative motivated by the policy drivers embodied in the 1998 White Paper on energy policy. Iita (2013) argues that the key motivating factor behind this drive was the deterioration of electricity distribution assets in small towns and rural areas which were not adequately maintained due to increased economic pressure on local authorities (Iita, (2013).

According to the Namibia energy policy (1998), the leading activities for REDS are:

- Purchase electricity from Nampower

- Distribute and supply electricity to customers

- Maintain the electricity network

- Expand the network through investment to accommodate future demand

- Explore renewable energy

2.5 CHALLENGES IN REVENUE COLLECTION

According to USAID (2007), several challenges facing REDs and Municipalities revenue collection include the following:

- There are inadequate capacity and technical skills to manage Local revenue collection in Local Governments and REDs.

- The problem is compounded by the fact that many workers within the Local Government lack the necessary academic qualifications.

- The tendering function has attracted many criticisms on their lack of transparency, compromising the amount of revenue collection.

- There is lack of professionalism, which manifests itself in corruption tendencies in the award of tenders.

- Dube (2014) stated that non-technical losses are regarded as another challenge in revenue collection. They refer to losses that occur independently of technical losses in the power system. Two easy examples of sources of such losses are component breakdowns that drastically increase losses before they are replaced in time and electricity theft. Losses incurred by equipment breakdown are quite rare.

These include losses from equipment struck by lightning, equipment damaged by time, the elements and neglect.

Authors like Iita (2013) and Mavhungu (2011) argue that the following are some of the factors affecting revenue collection in SADC:

2.5.1 Political rivalry and public dissatisfaction with services as factors affecting revenue collection

Residents and businesses concerned about high tariffs increase could be seen as one of the major causes of community dissatisfaction and political interference. In October 2010, Walvis Bay Municipality announced its withdrawal as a shareholder from Erongo RED; reasons appear to escalate complaints received from residents and businesses over apparent high tariff hike up to 100 percent (The Namibian, 2010). Over the past few years, South Africa has experienced a wave of protest action across most provinces. Many of these protests have also turned violent. In South Africa, Soweto, incidents of apparent xenophobia were also reported. Groups of foreigners, fearing the kind of attacks that saw 60 foreigners killed in 2008, are again seeking shelter at police stations. In several places, the police had to use force to bring stability and to restore order. Police action included arrests for looting, public violence, and various other crimes (Mufadi, 2002). Reasons are dissatisfaction with the delivery of primary municipal services such as electricity, running water and toilets, especially in informal settlements. Some reasons include allegations of corruption and nepotism within local government structures. Some protesters blame poor service delivery on the deployment of African National Congress comrades to positions

for which they are not qualified. This comes in the wake of political promises during the election period that all or most of these problems would be addressed once the new government is in place (Mufadi, 2002). He went further to state that police action included arrests for looting and public violence.

James Davies, an American sociologist, in a 1962 article titled, towards a Theory of Revolution theorized about rising expectations and the likelihood of armed conflict. His theory became known as the Davies J-curve. A model that attempts to explain the position where the pace of an individual's reality is not in keeping with his expectations. According to Davies J-curve theory of relative deprivation, these frustrated expectations are a cause of social unrest, and they increase the potential for political unrest. It also helps to overcome the collective action problem which may breed revolt. Revolt is defined as an attempt to fundamentally change an organisational structure in a relatively short period (Focus, 2002:17).

At this stage, it would probably be accurate to describe the relatively limited scope of current service delivery protests in South Africa as symptoms only of socio-political instability. It is crucial for the police to maintain order and to enforce the law. However, the solution to the problem does not lie in policing, but in speedy solutions to the socio-economic conditions that prevail in many communities. Without this being addressed and implemented unrest could lead to the problem of poor revenue collection.

2.5.2 Poverty and unemployment as factors affecting revenue collection

Poverty and unemployment are key factors affecting revenue collection amongst Regional Electricity Distributors (REDs) in Namibia. According to the Namibian Labour Force Survey 2016, the overall unemployment rate for Namibia is 34.0 percent. This signified an increase in the full unemployment rate of 6.1 percent compared to 2014 when the rate of unemployment was 27.9 percent. The unemployment rate was higher amongst females (38.3 percent) as compared to their male counterparts who recorded a 29.8 unemployment rate. In addition, the unemployment rate was found to be high in the rural areas with 39.2 percent compared to urban areas with 30.3 percent. The following is a table demonstrating the broad unemployment rate by sex and area.

Figure 1: Broad unemployment rate by sex, and area

	Namibia		Urban	Rural		Male	Female
Year 2014	27.9		25.9	30.3		24.1	31.7
Year 2016	34.0		30.3	39.2		29.8	38.3
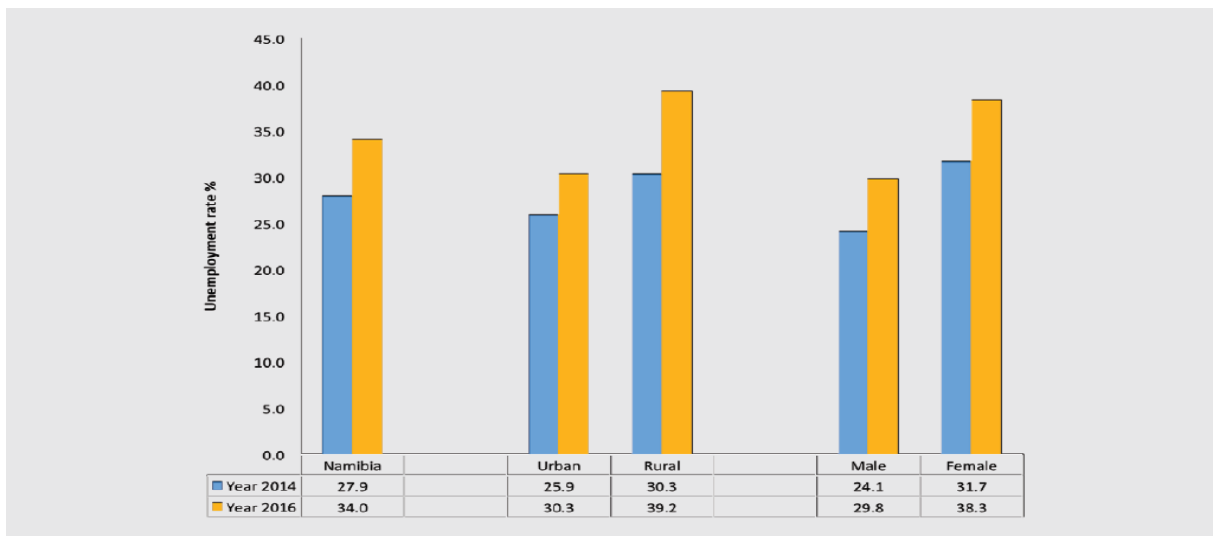
Source: Namibian Labour Force Survey report (2016)

Namibia is thus confronted with a situation where municipalities and REDs are put under pressure because poor people migrate from rural to urban areas to look for a job to better their living standards. Namibian Labour Force Survey (2016) states that "This migration

to urban areas has flooded the job market and led to huge scale urban unemployment." As a result, it puts pressure on RED's infrastructure because the rural immigrants cannot afford to pay for essential services (Craythorne, 2006). Although there is still a culture of boycotting council payments, people were deprived and could not afford to pay for municipal services (Sowetan, 2001). Poverty is then an underlying factor for poor revenue collection. Furthermore, as reported in the Natal Witness (2003), poverty and unemployment force many people to live below the breadline, thus they have no money to pay for the services that they receive. In a situation like this, there is a little money left in the households after the families have fed and clothed themselves. Hagg (1998) argues that poverty is directly related to the capability to pay, but not to the willingness to pay. Skills also influence unemployment: unskilled and semiskilled persons are most severely affected. Other poor revenue collection contributing factors include high-interest rates, the inability to manage household incomes, and incidental unexpected events such as illness and death.

According to Botes and Pelser (2001), non-payment of electricity is more an issue of the inability to pay than the unwillingness to pay. The findings of a baseline survey conducted by the City Development Strategy at 32 localities in all the nine provinces in 2001, found that the poverty experienced by many households in low-paying areas made them unable rather than unwilling to pay for electricity. In fact, nine out of every ten low-paying households included in the survey indicated that unemployment or the lack of income was the main reason for their non-payment. Botes and Pelser (2001) conclude that the baseline study suggested that the financial inability to pay was the primary problem associated with

factors affecting revenue collection amongst a considerable proportion of non-paying households.

2.5.3 Power thefts through bypassing, tampering, and illegal connections as factors affecting revenue collection

Electricity thefts are not just dangerous for those who steal, but customers on the same powerline as someone who steals electricity could pay the cost of their theft too (Erongo Red tariffs, 2016). According to Erongo Red tariffs for 2016/2017, the power line could become overloaded with electric energy which could harm household appliances. Electricity theft makes power service less reliable and lower quality for paying customers. Dube (2014) argues that there are challenges and issues of the prepaid system which are linked to the consumer's illegal practices. Mohammad, Barua, and Arafat (2013) state that the theft of electricity is so massive in some African countries that power utilities are incurring some financial losses instead of getting revenue. The financial loss results in a shortage of funds to meet and expand existing power generation and network transmission lines leading to failure of power utility companies to satisfy the ever-increasing demand for electricity.

Dube (2014) is of the view that the power utility suffered the loss of revenue due to the culture of non-payment by consumers. Furthermore, the challenge may increase when most residents begin to pay criminals a fee to have their meters bypassed. Anyanrouh (2013) posits that the situation may worsen when the power utility does not detect or to devise a way to be able to establish the time the consumer would have tampered or

bypassed the meter. According to Casarin and Nicollier (2009), India's national power utility had to install specialist meters on electricity poles to detect the consumption of household power usage patterns. If at any time the load on the points selected did not exceed the maximum permissible, the gadget turned off the power. Fitch and Graham (2009) reveal that in the United Kingdom (UK) domestic prepaid consumers with meters were seventeen times more likely to have their electricity supply disconnected for electricity theft than domestic consumers with credit meters. The implication is that domestic consumers who commit the offense are likely to turn into agents who deal with daily challenges of coping with poverty. Dube (2014) concludes that everyone is affected by power theft and detecting and reporting illegal activity will help reduce the electricity price.

2.5.4 Technical loss, load shedding, and network break down as factors affecting revenue collection

Ogujor (2010) revealed that most power utility organizations in Southern Africa continue to supply inadequate electricity due to increase in demand for minerals, inadequate investment in power generation and transmission, and rural electrification. Amigun, Musango, and Brent (2011) state that when an economy widens, it is often accompanied by an increase in domestic consumption of electricity. The Energy Information Administration (2010) reveals that new mining companies such as those in the mining of platinum and coal industry, particularly in Zimbabwe, South Africa, and Mozambique have contributed to the demand in industrial energy at the expense of domestic electricity supply.

The mining companies invest much capital in heavy machinery such as ball mills which consume much electrical power in their functioning. The UNDP (2010) suggests that most households and industries in Zimbabwe are subjected to three hours load shedding daily because of lack of investment in power generation since 1986. It further states that no new power generation plants have been built in the country since Kariba in the early 1960s and Hwange power station since the mid-1980. In addition, most countries in the SADC region have power deficits making it difficult to import power for domestic consumption into Zimbabwe. However, studies by Creamer et al. (2011) indicate that load shedding depreciates the power utility's equipment quicker due to the frequent switching on and off the equipment.

Namibia's case is different with that of other SADC countries. Shilamba (2014) states "Currently, there is no crisis regarding electricity and there will be no load-shedding to be experienced''. However, in May 2015, Namibia experienced a power blackout that lasted for almost the whole night. According to The Namibian newspaper (2015), NAMPOWER top executives are accused of deliberately creating the crisis hoping the government will jump onto the 250MW project to avoid a countrywide blackout. The Namibian newspaper (2016) reported that some of the regional electricity distributors (REDs) requested expressions of interest for the development of solar plants. CENORED, which already has an IPP for a 5MW plant, has issued Expression of Interest for an additional 13,75MW. Erongo Red has issued an EoI for a 3MW. Nored plans to issue a 10MW EoI.

It was further reported that NAMPOWER also has an existing IPP for a 4,5MW plant. This could bring the total number of PV installed in Namibia to 141, 25 MW. Currently, 9,5MW (5MW for CENORED and 4,5MW for NAMPOWER) of this PV has been installed, leaving a deficit of 131,85MW or 93% in the project pipeline. Research suggests that it is possible to install 131,85MW of solar within a year. The Namibian newspaper (2015) further reveals that together with other renewable technologies like hydro energy, the country's entire demand can be catered for using renewable energy with solar PV.

2.6 REASONS OF NON-PAYMENT FOR SERVICES RENDERED BY SOME CUSTOMERS

Authors like Booysen (2001); Botes, and Pelser (2001) and Burger (2001) argue that the most common reason used to describe non-payment appears to be the failure to pay due to poverty. McPhail (1993) suggests incorporating assessments of affordability and willingness to pay at the planning stage of public service of goods such as water if the intention is to recover costs.

According to Fjeldstad (2004), non-payment exists both in poor and rich areas. Willingness or unwillingness to pay can stem from dissatisfaction with services delivered by REDs which leads to a cycle of non-payments. As a result, REDs are unable to leverage financial and other resources to improve service delivery adequately. Fjeldstad (2004) concurs with the power of citizen understanding which is linked to the degree of trust that community members have in Local Authorities' leadership.

According to Hagg (1998), many communities in South Africa feel that they are not allowed to participate in the decision-making processes about their well-being. For this reason, many people decide not to pay for services. These communities are thus using their non-payment as a means of complaining about the current functioning of the service providers in their areas, be it ESKOM or their local municipalities. The Natal Witness (2003) reveals that private consumers have also begun to reject the notion that it is necessary to pay for services such as electricity because they see others ignoring Eskom with impunity. As one resident of Imbali stated, *why should I pay, while others have ways of getting electricity without paying a cent? I used to pay, but then I decided to join them*. Another consumer maintained that he would not pay for electricity because *suppliers only send bills to those who pay. Those who cannot afford to pay to get cut off*" (The Citizen, 2002).

The Soweto Electricity Crisis Committee (SECC) argues that Eskom discriminates against the more impoverished residents of Soweto in favour of their wealthier counterparts in Sandton. The SECC claims that Soweto residents are charged 28 cents per kilowatt-hour, while residents in Sandton are charged 16 cents per kilowatt-hour and businesses situated in the area are charged even less at 7 cents per kilowatt-hour (Southern Africa Report, 2001). Moreover, some consumers receive regular billing, while others do not.

This situation often results in consumers receiving huge bills which often exceed what the consumer can afford to pay in one installment. These consumers then have the services disconnected from the service provider, thus causing a great deal of dissatisfaction amongst the residents.

Furthermore, an umbrella body for business in South Africa listed the following factors in order of importance as the main reasons driving non-payment of services (Business Unity South Africa, 2011):

- Irregular billing

- Incorrect billing

- Unhappiness with service

- High tariffs

According to Kromberg (1995) the main reasons for non-payment of services were:

- Apartheid system

- The non-existence of representative municipalities

- The breakdown in the provision of services

- Communities got away with not paying

- The breakdown in administration.

- Economic crises and inflation

2.7 RELATIONSHIP BETWEEN REVENUE COLLECTION AND SERVICE DELIVERY

According to Kaongo (2015), service delivery is getting services as efficiently and quickly as possible to the intended recipient. This mandate is embedded in the 2007 electricity act of the Republic of Namibia. The provision of essential services such as water and sanitation, healthcare, primary education, feeder roads, and agriculture extension services are left to the municipalities.

Regional Electricity distributors are expected by their customers to provide excellent services; the excellence in service delivery is the hallmark of success in every local government in Namibia. The provision of services comprises the responsibilities by the REDs which presupposes financing. For REDs financing includes internal revenue collection whose performance influences the quality of services provided to the citizens. However, what exactly is a quality service delivery that is expected of any REDs? The REDs can deliver what is promised to the populace. With effective collection, the larger the revenue base, the more the revenue collected and the better the services delivered (Crompton, 1991) The presence of a good and well-functioning legal framework will also affect how the available finances can assure the provision of quality services. The legal framework here entails a working internal control system and rules and regulations that govern the functioning of the REDs. Corruption is one of the disturbing elements in the provision of service by public service companies and the only way to curb it is by having a proper and well-functioning legal framework.

2.8 THE BEST PRACTICE OF REVENUE COLLECTION FOR REGIONAL ELECTRICITY DISTRIBUTORS

The majorities of local government authorities have reformed their revenue collection systems in recent years to add to their revenue. According to Mavhungu (2011) revenue refers to the total amount of money attained by the company from goods and services retailed. In the context of Namibia, it is an income collected by REDs from sources within their area of jurisdiction. Knowing detailed characteristics such as types of debt and ages of the debt will allow towns to prioritize the workflow thereby increasing the efficiency

of debt collection efforts and performance. For example, if a RED knows that 60% of the non-payment in their records is more than five years old then this should lead to an entity that concentrates its efforts on collecting more current debt resulting in an improved rate of collection. It is also advisable that REDs begin internal collection efforts as early as possible in the non-payment life cycle.

It is essential for REDs to consider planning if it decides to contract with a collection partner. Ideally, non-paid accounts should be given to a partner after 60-90 days following the default of payments. Outsourcing these collection efforts has an added benefit of allowing a department or agency to focus on more complex cases or other vital department objectives. A contingency fee collections contract is an ideal design to employ since there is shared success and alignment of goals. The contract allows for limited up-front costs to the organization and allows collection partners to align their pricing with the interests of the town. It is a win-win for both parties when additional revenue is collected. REDs should, however, not rely on the lowest bid vendors to keep their overheads low.

Allow debtors to spread their payment over different months instead of forcing them to come up with a single payment which could be beyond their means. For example, a debtor is often more likely to succeed in paying a debt if allowed to pay in monthly instalments of N$100 a month for twelve months instead of being required to pay a lump sum of N$ 2000 by a specific date. Online and phone payments should be allowed as they create a convenient time for consumers to make payment thus increasing the chance of payment being made. The researcher investigated whether Erongo RED used the above best practice for the collection of revenue to discourage non-payment.

2.9 BUDGETED REVENUE VERSUS ACTUAL REVENUE

Budgeted revenue collections refer to the REDs estimated amount of income to be collected in a financial year. The actual revenue collections are what the Local Government collects by the end of a given financial year. In some cases, the actual collections could be higher than the budgeted, and this shows a satisfactory performance in revenue collection (USAID, 2007). In other instances, the actual collections could be less than the budgeted collection target. This results in a revenue recovery risk, and it is not desirable if the Local Government is to deliver quality and sufficient services to its people (Tregilgas, 2006). It is noted that not all deficit budgets are indicators of poor performance as the literature above indicates. This is because some deficit budgets are an inducement to economic growth and development. The authorities may use deficit budgets to search big funds from donors to enhance faster development in REDs. It should be noted that even though the REDs produce budgets as a must due to the significance of budgets, sometimes these budgets do not necessarily meet the standards hence failing, not meeting the intended objectives (Robert, 2011).

2.10 REVENUE ENHANCEMENT PLAN

A revenue enhancement plan is a charge against a citizen's property or activity for the support of the Government (American Business dictionary, 2014). In a bid to curb and reverse the declining revenue, many companies came up with revenue enhancement plans to increase the revenue base to improve revenue collected (Byrnes, 2006). According to Byrnes (2006), REDs have the right and obligation to formulate, approve, and execute budgets and plans. Revenue Enhancement Plans should, therefore, be separately developed in line with and integrated into the RED's Developments Plan.

The Revenue Enhancement Plan ensures a coordinated approach to revenue generation by the Local council and it can measure progress against the plan (Caulfield, 2000). A revenue enhancement plan cannot be regarded as a shield against poor revenue collection in District Local Government as portrayed by other authors such as Maina (2013) and Mbufu (2013). The Revenue Enhancement Plan ensures a coordinated approach to revenue generation by the Local council, and it can measure progress against the plan (Caulfield, 2000).

2.11 CONCEPTUAL FRAMEWORK

According to Mbufu (2013), a conceptual framework is the relationship between variables and a congregative map. The conceptual framework theory discusses the factors affecting revenue collection in REDs. It consists of the independent, dependent variables, and control variables. The independent variables are revenue collection, and the dependent variable is service delivery, while the control variables include different regulations that influence both the independent and dependent variables.

According to Crompton (1991), there is a positive relationship between service delivery and revenue collection. He further argues that for effective collection, the larger the revenue base, the more the revenue collected and the better the services delivered. Presence of a good and well-functioning legal framework will also affect how the available finance can assure the provision of quality services. The legal framework here entails adequate policies, guidelines, and regulations that govern the functioning of the revenue collection.

Figure 2: Conceptual Framework
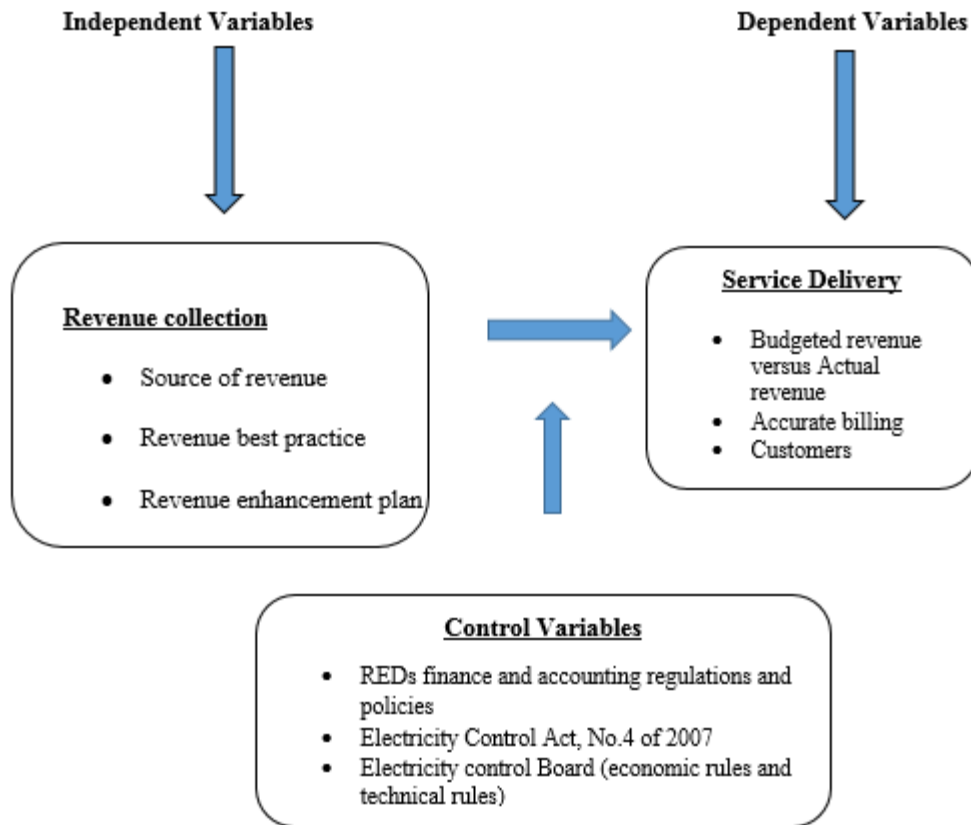
Source: Researcher's construct – 2018

2.12 EMPIRICAL LITERATURE REVIEW

2.12.1 African Studies

Iita (2013) carried out a study which was entitled "Evaluating reasons for non-payment of key services in Oshakati town, Namibia". The purpose of the study was to make an evaluation of the reasons for non-payment of critical services in Oshakati. The researcher used both quantitative and qualitative research methods. The study involved diverse types of research such as case studies and descriptive research design.

The findings show that there is a performance gap between the expectations of the customers and the service delivery by the municipality on problems to do with refuse collection and sewage services management. This indicated poor service delivery. The study indicated that illegal water consumption contributed to non-payments where residents bypassed water meters. Moreover, the study found out that poverty and unemployment were unavoidable variables affecting the customers to pay for services.

The key recommendations were as follows:

- **Revenue collection** – Implementation of Geographical Information System (GIS) because the block maps produced will be handy in helping staff in following up non-payment bills. The researcher further recommends some revenue collection strategies, for example, door-to-door customer visits to enhanced revenue collection.

- **Recruit qualified and experienced employees –** There is a great need to employ qualified Chartered Accountants to manage the monetary management systems of the municipality. Training must be done to improve service delivery and to increase a culture in the management of debt collections.

Mavhungu (2011), conducted a study on the non-payment of municipal services in the Vhembe District Municipality, South Africa. This study aimed to investigate reasons for non-payment by residents for services rendered by the Vhembe District Municipality. The study was empirical, and it included diverse types of research such as descriptive (case study), historical, and expository research. Simple, stratified and cluster random sampling methods were used in this study.

The major findings revealed that only 8% of the respondents felt that the services were unaffordable, 50% felt that they were not very affordable, while 42% felt that they were affordable. Moreover, only 2% of the respondents rated the services from the municipality as very good, 39% said they were good, 36% said the services were poor, and 23% rated the services as very poor. The high degree of dissatisfaction among consumers of municipal services could have severe implications on revenue collection.

Regarding improving service delivery and encouraging customers to pay for the services, she recommends the followings:

- The municipality needs to launch an educational and awareness campaign among the communities to deal with the apparent dependency syndrome

- The municipality needs to urgently improve the quality of services to ensure that customers' willingness to pay service is raised.

More closely related study was done by Maina (2013) on factors affecting revenue collection in local authorities in Kenya. The study aimed to investigate the factors affecting revenue collection. The descriptive research design to carry out an in-depth study of the organization to come up with the relevant data analysis was applied. Content analyses were used to analyse qualitative data, while quantitative data were analysed using Statistical Package for Social Sciences, (SPSS) in order to generate various frequencies.

The study revealed that compliance on revenue collection was rated as average by (50%) of the participants, while (46%) participants disagreed that government policies and regulations acted as restrictions to the local authority in revenue collection. The majority

(52%) agreed that taxation affected revenue collection. Ministry of Local Government sets timelines for the local authority to collect revenue according to most (35%) of the participants in the study.

In the light of the above findings, the research recommends the followings:

- The system of governance should be fully decentralized to allow the local authority to have more control of their revenue collection.

- The local authorities should embrace employees on - job training to improve their technical capacity.

- The local authority should be allowed to have greater control of their revenue enhancement plans.

Robert (2011) carried out a study on the impact of revenue collection on service delivery in local governments: a case study of Iganga district local government, Uganda. The purpose of the study was to establish the relationship between revenue collection and service delivery. The authors used descriptive and explanatory survey research designs based on results from questionnaires, interviews, and observation. The researcher used both quantitative and qualitative research designs.

The findings showed that 15 out of the 30 respondents (50%) strongly agreed, (26.7%) agreed, and 10% strongly disagreed, and 13.3% disagreed. It should be noted that most of the respondents strongly agreed that declining revenue collection in Iganga District Local Government led to poor service delivery.

He concludes that even though most of the challenges were inherent in the structures of the Local Government, they were not beyond control. It showed that low revenue collections in the district could be improved by implementing various policies such as motivating the tax authorities, checking on political interference, sensitizing communities, privatisation of revenue collection services, and increase on Government grants to Local Governments (Robert, 2011). The principal recommendation was to motivate revenue collectors and mobilize politicians not to interfere with day to day local authorities' activities.

Dube (2014) studied the impact of the domestic prepaid meter system on revenue generation. He conducted his study in Gweru urban district from the period of 2012 to 2014. The study was to evaluate the impact of the domestic prepaid meter on revenue generation at the Zimbabwe Electricity Transmission and Distribution Company (ZETDC). The study used the descriptive design approach which used questionnaires as the primary instrument of data collection. The judgmental sampling method was used in selecting and interviewing respondents.

The study revealed that the introduction of prepaid meters came with benefits which included the elimination of expenses incurred in collection, arrears and unpaid bills. The study further showed that 67% of ZETDC managers strongly agreed that the introduction of domestic prepaid meters had improved revenue generation. He established that the primary challenge was power theft through tampering with the meter as revealed by the managers. The findings by the researcher also showed that there was an inadequate supply

of electricity in Zimbabwe and that ZETDC customers continued to experience blackouts since they shifted to the prepaid system.

He recommended that management should consider carrying out awareness campaigns to discourage customers from tampering with prepaid meters. The Government of Zimbabwe should source funding for the power utility company to renovate and upgrade power generation plants. This would enable ZETDC to meet the power demands of the customers and lessen load shedding.

Mbufu, (2013), made a study on the impact of revenue collection on service delivery in local governments: a case study of Ilala municipal council. The study based on three specific objectives: - to examine the challenges faced by Ilala District in revenue collection, to examine how revenue collection could be improved and critically examined The relationship between service deliveries in the local government.

The researcher used both qualitative mad quantitative research approach with the sample of 150 respondents who included the staff of Ilala district. The study findings reveal that the challenges faced by the district local government includes political interference, tax evasion and tax avoidance.

Based on the findings the researcher concluded that revenue collection has a great impact on service delivery. The study further recommended measurers to improve on revenue collection such training tax collector and sensitizing the masses.

2.12.2 International Studies

The study by Vllasaliu (2015) investigated the factors affecting the regular monthly payment of electricity bills in Hajvali. The project considered the problem of non-payment of electricity bills in Hajvali, Kosovo. Methods of analysis included surveys, regression analysis, and interviews. Forty surveys were conducted with citizens and three professional interviews with the director of energy supply for Kosovo Energy Distribution Services (KEDS), the director of the budget of Kosovo and the representative from the Ministry of Labour and Social Welfare. Minitab software was used for the regression to test the statistical significance of each of the factors. From the data collected, several factors stood out as the cause of a low collection of electricity billed. The primary factor was the lack of monthly disposable income where some household's energy bills consumed around 30% of the total family budget during the distribution system. There were other factors discussed more thoroughly on the project. From the Minitab results, the lack of disposable income and awareness of customers about tariff structures (lack of efficiency measures) were significant at 10% level of significance. Normality and independence tests were run on the only significant quantitative variable to account for any outliers and errors in the procedure.

The key recommendations proposed to increase the bill collection rate in Hajvali include:

- Electricity cut offs to all debtors and appliance of reconnection fees
- Re-introduction of cheaper tariffs during the daytime
- Educational programmes, seminars, or advertisements to increase awareness about energy efficiency

Gitman (1986) did a study on how larger firms speed up cash collection in the United Kingdom (UK). The study showed that such firms used lockbox systems to accelerate the process, but more than half of small firms avoided it due to associated high operating costs. This survey further reveals that to collate funds together for use, over one-half of all large firms use concentration banking with wire transfers and depository transfer cheques being the primary means of moving funds from one bank to another. Their study also notes the critical tool for managing cash disbursement as the zero-balance accounts which are centrally controlled. It was used by about 70% of large firms in the United Kingdom.

Rekettye and Pintér (2006) conducted a study on customer satisfaction and price acceptance in the case of electricity supply aiming at exploring the relationship between satisfaction and price acceptance in the case of a basic utility. The research was used a face-to-face questionnaire survey of a representative sample of randomly selected 1384 residential consumers in Hungary. The findings found that satisfied customers had a higher price acceptance.

Kirat and Ahamada (2009) conducted a study on the impact of the European Union emissions trading scheme on Electricity Prices. The study used a variety of methodological approaches, including theoretical, empirical, model, literature, and policy analyses.

2.13 SUMMARY OF THE CHAPTER

The purpose of a literature review was to identify any gaps that exist in the literature with relations to the objective of this study. Authors like Iita (2013), Mvanghu (2011) and Dube (2014) argued that political interference, customer dissatisfaction, unemployment, poverty, non-payment, technical loss, load shedding, and network breakdown are some of the factors affecting revenue collection in SADC. It has been established that the public has a perception that they are not allowed to participate in the decision-making processes regarding their well-being. For this reason, many people have decided not to pay for services rendered to them (Hagg, 1998). According to Crompton (1991), there is a correlation between revenue collection and service delivery. Furthermore, it is also evident that all REDs need to have a working best revenue collection practice that is aligned with their strategic plan (Parkin, 1995). Addressing these challenges requires not only interventions aimed at enhancing revenue collection but more significant improvements to service delivery and processes. It is these gaps that the current study intended to fill by investigating the factors that affected revenue collection at Erongo RED. The next chapter deals with the methods used to gather data about these issues.

CHAPTER THREE

RESEARCH METHODS

3.0 INTRODUCTION

The chapter presents the researcher's plan of data collection. It discusses the research design, the study population, the study sample, research instruments, and administration of the questionnaire and interviews, pilot study, research procedure, data analysis and, finally, the summary of the chapter.

3.1 RESEARCH DESIGN

The research design of the study is a case study which focused on the Erongo Regional Electricty Distributor Company. A study by Best and Khan (2004) defines the research design as an outline, strategy or plan used in the research to seek an answer to the research problem. This study employed a mixed methods approach which comprises of the correlational and case study research design. Johnson and Onwuegbzie (2004) further state that mixed methods research is an approach that considers multiple views, perspectives, positions, and standpoints (always including the standpoints of qualitative and quantitative research).

3.1.1 The quantitative research approach

The quantitative approach aims to obtain objective information which does not include feelings and attachments, but facts. In addition, the quantitative research approach further aims to describe and document aspects of situations as they naturally occur.

The researcher implemented the quantitative research approach using questionnaires. The data collection method used by the researcher was to deliver the questionnaire in person to the participants and collect it after completion. Structured questions were also administered to participants.

3.1.2 The qualitative research approach

The qualitative   research approach focused on views, opinions, and perceptions of what is deemed as the contributory factors to inadequate revenue collection and the recommendation of possible revenue collection methods. This information was gathered from the executive management of Erongo RED.

The following information was collected through face to face interviews using a questionnaire with open-ended questions:

- Opinions on what were the main challenges faced by Erongo RED regarding revenue collection

- Views on whether revenue collection efficiency improved from 2013 - 2017 financial years.

- Opinions on the effects of inadequate revenue collection on the company

- Opinions on how business units contributed to ensuring that there were improvements in revenue collection

- The recommendations on revenue collection methods to be introduced by Erongo RED, and

- The recommendation on whether a Revenue Collection Enhancement Plan was essential for Erongo RED

3.2 POPULATION

The population of this study consisted of two groups, namely, Erongo Red customers and Erongo RED employees. According to 2018 Erongo RED human capital database, the number of employees at Erongo RED is 289, of which 104 are female, and 185 employees are male, both at head office and at the area branches. The number of two hundred and eighty-nine (289) is made up of (1) Chief Executive Officer, four (4) executives and two hundred and eighty-four (284) employees who fall below the executive level. Erongo RED (2017) annual reports reveal that the number of registered pre-paid and conventional customers is 35 000. This means that the total population of this study is 35 289 including employers.

3.3 SAMPLING PROCEDURE (SAMPLE)

According to Zikmund (2000), sampling is the process or technique of selecting a suitable representation or a typical part of the population to determine characteristics or parameters of the entire population. The sample size of a statistical sample is the number of observations that constitute it (Cresswell, 1994). The stratified sampling technique used to divide the population into different strata from which data was collected. The advantage of using the stratified random sampling method, was to reduce selection bias, and ensure that each subgroup in the population had the same chance of being selected (Mavhungu, 2011).

The employee list of Erongo RED was obtained from the Human Capital section for a sample to be drawn out of the population. The study used the simple random technique to select 29 participants who constitute 10% of the population. Of these participants 5 were executive managers while twenty-four participants represent employees below executive level. The sample was made up of 29 employees and was drawn as follows: $N = 289, n = 10$ so, $N/n = 289/10 = 29$ with (N) being the population size, (n) being percentage of the population size and 10 (n) also being treated as a sampling fraction. Sindere (2016) also used the 10% sample rule to come up with the sample size of the study he conducted.

The number nine was randomly chosen as a starting point in the list of 289 employees, meaning that employee number 9 formed part of the sample and every tenth employee after that was included until the sample size reached was 29. Thus, employees on the list represented by the following numbers made up the sample for this study: 9, 19, 29, 39, 49, 59, 69, 79, 89, 99, 109, 119, 129, 139, 149, 159, 169, 179, 189, 199, 209, 219, 229, 239, 249, 259, 269, 279 and 289. Other previous researchers like Iita (2014) and Mavhungu (2011) used sample determination techniques. The customers sampling frame is shown in table 3.1 which describes the population size, the sample size, and their corresponding percentages.

Table 3.1 Customer sampling frame

Respondents	Population size	Sample size percentage	Sample size
Erongo RED customers	35000	0.0026%	91

Source: Researcher's construct 2018

The researcher felt it was not realistic to use the 10% sample size rule to determine the employee sample because the number of Erongo Red customers is too large. According to Berkowitz. J (2017), for descriptive research design sample size should be based on either author's feelings, power calculations, or confidence intervals. It is with this background that the researcher felt that a sample size of 91 would be realistic and manageable for the population of 35000 considering the amount of work involved in data capturing, estimation and analysis of the results. Yamane (1967), as cited in Singh & Masuku (2014), discussed the following formula as an appropriate method to determine the sample size percentage in cases where the population is too big. Sample size percentage $= \left(\frac{Sample\ Size}{Population} \times 100\right)$. The study therefore used 91 as a sample size of the 35000- customer population. To get the sample size as a percentage, the sample size was divided by the size of the population and multiplied by 100 $\left(\frac{91}{35000} \times 100\right)$ and this gives the sample size as a percentage of the population of 0.0026%. Yamane (1967), further stated that to determine the sample size in cases where the population is too big the following formula can be used. Sample size = (Population x sample size percentage) 35 000 x 0.0026% = 91.

3.4 RESEARCH INSTRUMENTS

The researcher relied on both primary and secondary data sources that were relevant to explore the research questions. The researcher collected data using the following instruments:

3.4.1 Questionnaires

According to Harry (2013), a questionnaire is a tool for collecting and recording information about an issue of interest. Views from employees and customers were gathered through self-administered questionnaires. The self-administered survey research design was chosen as it was found to be the most appropriate for the study. The reason for using questionnaires for data collection was that enormous amounts of data could be collected from many people in a brief period and in a cost-effective way (McDonald, 2002). It should also be noted that the questionnaire is the most widely used technique for obtaining information from respondents because questionnaires are easy to use since they have the same questions for all respondents and they are good at ensuring anonymity of the respondents (Harry, 2013)

A questionnaire with both structured and non-structured questions was constructed and distributed to 120 respondents in all Erongo Red offices. Of these respondents, 29 were employees and 91 were Erongo Red customers. One hundred and twenty (120) questionnaires were completed and returned and this represented a one hundred percent response rate.

Two questionnaires were developed for customers and employees. Both questionnaires were divided into two sections. The first section of both questionnaires was designed to collect the demographic data of the respondents. The second part of employees' questionnaire was designed to collect data relating to revenue collection factors, challenges, the relationship between service delivery and non-payment. For the customers, the questionnaire was designed to collect data based on customers' attitudes, personal

condition towards non-payment and service delivery as well as testing their understanding regarding service and the monthly invoice, among others. The questionnaire items such as wording, naming, and questions chosen for the questionnaire used in the study were precise, clear, simple unambiguous and easy to understand. Questionnaires comprised of structured and a few non-structured questions on selected variables.

It is of importance to note that the researcher acknowledged that the use of questionnaires as a data collection instrument had several disadvantages. According to Harry (2013), one of the disadvantages of using questionnaires is that the questions can be misunderstood by the respondents, who may require much time to clarify them. The body language of the respondents cannot be observed as the respondent cannot be seen. Each response question was measured using a 5-point Likert scale where there was Strongly Agree (1), Agree (2), Neutral (3), Disagree (4), and Strongly Disagree (5), (Agarwal, 2011).

3.4.2 Face to face interviews

As part of the data collection, twenty (20) minutes face to face interviews were conducted with the Chief Executive Officer and four business unit executive managers. An interview guide was used as the data collection instrument for the interviews. Questions in the interview guide covered opinions on revenue collection methods. Views on main revenue collection challenges faced by Erongo RED, level of revenue collection efficiency compared to the past years and importance of revenue collection enhancement plan for REDs in Namibia. Another question was the impact of inadequate revenue collection on the company as well as opinions on how their business units could contribute to an adequate, efficient and accurate revenue collection. The information gathered through

interviews was used to formulate views on the driving factors of inadequate revenue collection and on the possible solution to contain them.

3.4.3 Secondary sources of data

The researcher reviewed journals, annual reports, other scholars' theses or dissertations, books, magazines, pamphlets, documents, and the internet on local government revenue collection as well as the electricity supply and distributing industry in SADC. Other published works on factors affecting revenue collection, especially from developing countries were further used to compare findings of prior studies conducted on the subject matter. Research findings are meaningless and unacceptable unless it can be proved that the processes that had been applied were reliable and valid (Nangolo, 2016). In agreement with the above statement, the study instruments' validity and reliability is therefore explained below:

3.4.4 Instrument validity

Regarding validity, the measuring instruments were given to the supervisor for inputs. Validity is defined as the degree to which a test measures what it is supposed to measure (Welman, Kruger and Mitchell, 2005). According to Zikmund (2000), validity is concerned with ensuring that the question measures or describes what it intends to find. It should be noted that even though a question has high reliability, it does not necessarily have high validity. Zikmund (2000) further states that validity deals with the general agreement between theoretical and empirical concepts. For the questionnaire, the questions were constructed from the objectives of the study informed by the literature review. This was done to ensure that the questions were related to the objectives to attain

content validity. The use of face to face interviews with the Erongo RED executives'
ensured validity as answers to some questions could be checked from body language. It
also allowed the interviewer to probe further on some questions. Peters, Howard, and
Sharp (2012) argue that a high response rate implies that the research findings are unbiased
and ensures more accurate research findings.

3.4.5 Instrument reliability

Reliability is concerned with the findings of the research and specifically relates to the
credibility of the questions and potential findings (Welman, Kruger and Mitchell, 2005:
p145). Furthermore, Marshall and Rossman (2000) stress that reliability occurs when the
instrument measures the same thing more than once and yields the same results. This
means that the instrument is consistent with what needs to be measured. Despite the pilot
study conducted before actual data collection, a reliability test was conducted on the
instrument. It is worth noting that the researcher adopted only the factors and sub-factors
that were mentioned in the material reviewed. The researcher adopted the factors and sub-
factors that were mentioned in the material reviewed as a way of ensuring reliability and
validity. The author also used the Cronbach's alpha reliability test to test for the reliability
of the data employed in the project, Sapsford & Jupp (2006). Cronbach's alpha value of
0.766 and 0.641 was obtained which showed the acceptance levels of reliability.
According to Tavakol and Dennick (2011), the acceptance Cronbach's Alphas in the
social sciences range between 0.7 and 0.9. However, it should also be noted that other
authors like, Marshall and Rossman (2000), also state that acceptable Cronbach's Alphas
can be as low as 0.6. This study yielded a 0.704 overall which is above the minimum

acceptable threshold of 0.7, so it can be concluded that the instrument used in this study was reliable.

3.5 ADMINISTRATION OF THE QUESTIONNAIRES AND INTERVIEWS

Questionnaires targeting employees were handed to individual respondents in their workstations at Erongo RED's offices by the researcher. Customers' questionnaires were designed to ensure that they were short and precise to elicit accurate interpretation of the questionnaires by the participants. Face to face administration of questionnaires assists in clarifying questions for the respondents while also ensuring that the questionnaires are completed in full. Questionnaires were distributed in person and returned in the presence of the researcher to provide further clarity where necessary. They contained both structured and fewer non-structured questions and were distributed to the employees and customers in all Erongo RED pay points. Ethical issues of participants' right, privacy, and confidentiality of information were emphasized to the respondents during the data collection process.

3.6 PILOT STUDY

A pilot study is a feasibility study undertaken before the actual study to see if the study is doable (Christensen, Johnson, and Turner, 2010). A pilot study was conducted to test the validity and relevance of the research instruments, to detect flaws and identify any unclear ambiguity in the content. Six (6) randomly selected employees and customers participated in the study. Based on the results of the pilot study, some questions were restructured.

3.7 RESEARCH PROCEDURE

Relevant approval from Erongo RED management and the University of Namibia, Namibia Business School was sought. A pilot study using six (6) respondents was conducted soon after the data collection instrument was approved by the supervisor. According to Saunders (2000), and Cooper and Emory (2001), the purpose of the pilot study is to refine the questionnaire so that respondents will have no problems in recording data. Data from six (6) respondents was analysed, and appropriate modifications were done on the instruments. This was done in three (3) days. Both primary data and secondary data was gathered. Primary data was collected from respondents and secondary data was collected from books, journals, annual reports, magazines, pamphlets, other authors' dissertations or theses and the internet.

3.8 DATA ANALYSIS

This section describes the procedures that the researcher used to analyse data from the research. Data analysis refers to the process of making sense of the information or evidence collected during the research (Best and Khan, 2004). Collected data was organized into three major categories as guided by the research objectives.

3.8.1 Quantitative data analysis

Quantitative analysis which focuses on numbers and counting was applied to those responses that related to closed questions. Such an analysis assists in understanding how many people agreed, remained neutral or disagreed on the issue. The quantitative data was estimated and analysed using the IBM Statistical Package for Social Science (SPSS) version 25. The data collected was analysed by using descriptive statistics which included frequency distributions tables, charts, and graphs. In addition, inferential statistics such as

correlation analysis was also employed. It should also be noted that the results were presented by using tabular and graphical presentation.

3.8.2 Qualitative data analysis

According to (Best and Khan, 2004) qualitative analysis is regarded as any form of research analysis that utilises non-numerical approaches to derive meaning from the research data. Seeing that only six face to face interview were conducted, the researcher felt that the best and method to analyse them was to do so manually since the work involved was very little.

3.9. RESEARCH ETHICS

Marianna (2011) defines ethics as discussions around what is considered or justifiable behaviour in the practice of social research. Ethical principles act as a guide to behavioural expectations at every stage of the research process. It is of utmost importance to note that the researcher observed the following ethical measures relating to sampling procedures, data collection, and processing as well as literary sources. Firstly, the purpose of the study was explained to the respondents before the presentation of questions and the answers were given on a voluntary basis. The process of gathering information from respondents was anonymous and confidential. The respondents were informed that their participation in the study was voluntary and they could withdraw from the survey if they so wished. All sources in this study have been appropriately referenced and acknowledged and thus have not been passed as the researcher's work. The researcher sought ethical clearance from University of Namibia's Research and Ethics Committee. The researcher pledged to keep the data in a lockable safe for five years and it will be destroyed by shredding after that. Finally, the thesis write-up was solely the work of the researcher.

3.10 CHAPTER SUMMARY

This chapter focused on the research methodology that was employed in this study. The mixed method approach was applied. The population and sample of the study were indicated. The chapter discussed instruments that were used to collect primary and secondary data. It also gave the context and justification of their implementation. A pilot study was also conducted to test the validity and relevance of the research instruments, to detect possible flaws and identify any unclear ambiguity in the content. The research procedure that was followed to execute the study was outlined. Data analysis techniques that were used to analyse the data were also highlighted. Finally, this chapter presented issues on the consideration of ethical matters. The next chapter covers a presentation of the results and their discussion.

CHAPTER FOUR

RESULTS PRESENTATION AND DISCUSSION

4.0 INTRODUCTION

This chapter focussed on the presentation, analysis, and discussion of the questionnaires and interview findings. The quantitative data results were presented using descriptive statistics - tables, frequency distributions, charts, cross-tabulations, and the correlation test. Qualitative data results from the interviews was grouped according to the similarities of responses and was presented in the form of summaries and interpreted accordingly. The findings were then used to address the research objectives and also answer the research questions. The findings were descriptive, and they proved conclusive in the numerical framework employed. It is worth mentioning that all data presented were a combination of secondary and primary data collected for this study unless otherwise acknowledged.

4.1 RESPONSE RATE

Table 4-1: Response rate

N =120

A sample of the researcher	Number of self-administered questionnaires	Number of retrieved questionnaires	Response rate
120	120	120	100%
Total respondents			**120**
Total number of face to face interview questions			**5**

Source: Primary data

Table 4-1 shows that 120 questionnaires were distributed and all questionnaires were fully completed and returned. The response rate was 100% of the total sample of 120.

4.2 CRONBACH'S ALPHA

Table 4-2 below indicates that the Cronbach's Alpha for the employee questionnaire was found to be 0.766, while that of the customers was found to be 0.641 respectively. The acceptance of Cronbach's Alphas in the social sciences ranges between 0.7 and 0.9 (Travakol and Dennick, 2011). However, it should also be noted that other authors like Marshall and Rossman (2000) also state that the acceptable of Cronbach's Alphas can be as low as 0.6. Since this study yielded an Alpha of 0.766 and 0.641 which is above the minimum acceptance threshold of 0.6, it can be concluded that the instrument used in the study was reliable.

Table 4-2: The Cronbach's alpha

Variables	Number of respondents	Number of questions	Cronbach's Alpha
Employee questionnaire	29	25	0.766
Customer questionnaire	91	25	0.641
Overall	**120**	**50**	**0.704**

Source: Primary data

4.3 DEMOGRAPHIC INFORMATION

The purpose of this question was to outline the demographic information of the respondents. Primary data was collected to determine the views and opinions of the respondents. The collected data congregated was utilised to conclude the research predicament. The following are the demographics of the respondents:

4.3.1 Gender of the participating respondents

Table 4.3 below illustrates the gender distribution of the participants representing customers and employees of Erongo Red.

Table 4-3: Respondents by gender

Gender	Employee questionnaire		Customer questionnaire	
	Number of participants	%	Number of participants	%
Male	13	44.8	50	54.9
Female	16	55.2	41	45.1
Total	**29**	**100**	**91**	**100.0**

The sample for the study was 120 respondents and there was a 100% response rate on this study. Table 4.3 above reveals that 47.50 % (n=120) of the respondents in the study were female while 52.50 % (n=120) were male. This distribution is an indication that participation of both genders was emphasised to ensure a gender balanced study which considered the opinions of both sexes.

4.3.2 Age of respondents

Table 4-4: Age of respondents

N=120

Respondents age group	Employee questionnaire		Customer questionnaire	
	Number of respondents	%	Number of respondents	%
Under 25	2	6.9	4	4.4
25 – 30	4	13.8	16	17.6
31 – 40	11	37.9	23	25.3
41 - 50	6	20.7	25	27.5
51 – 60	6	20.7	15	16.5
Over 61	0	0	8	8.8
Total	**29**	**100**	**91**	**100**

Source: Primary data

According to table 4- 4 above, most respondents were within the age range of 31-40 years that scored the highest number of 120 respondents. The age group of 41-50 years scored the second highest number of respondents. The age group 51-60 years was third in the row and the 25-30 years age group fourth, while the age groups of under 25 and over 61 had fewer respondents. This study reveals that the average age of the respondents (customer and employees) of Erongo Red who participated in this study was 40 years of age.

4.3.3 Level of education

Figure 3 below displays the level of education of the respondents
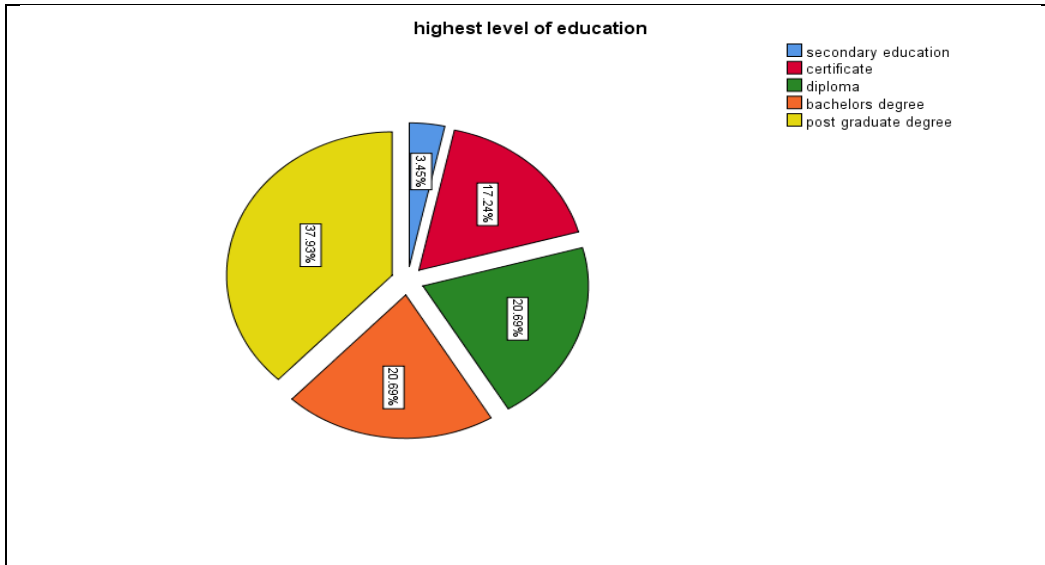
Figure 1: Respondents' level of education

The level of education of the participants was sought to establish the level of literacy of employees. Figure 3 shows that 37.93 % of the respondents had attained postgraduate qualifications. Those who were in possession of bachelor's degree and diploma constituted 20.69%, whereas 17.24% had studied up to the certificate level while 3.45% had a secondary level of education. The level of education and the attendance of management training courses is an important aspect in terms of any firm's survival (Hall, 2005).

4.3.4 Employment status

Figure 4.2 represents employment status of employee respondents
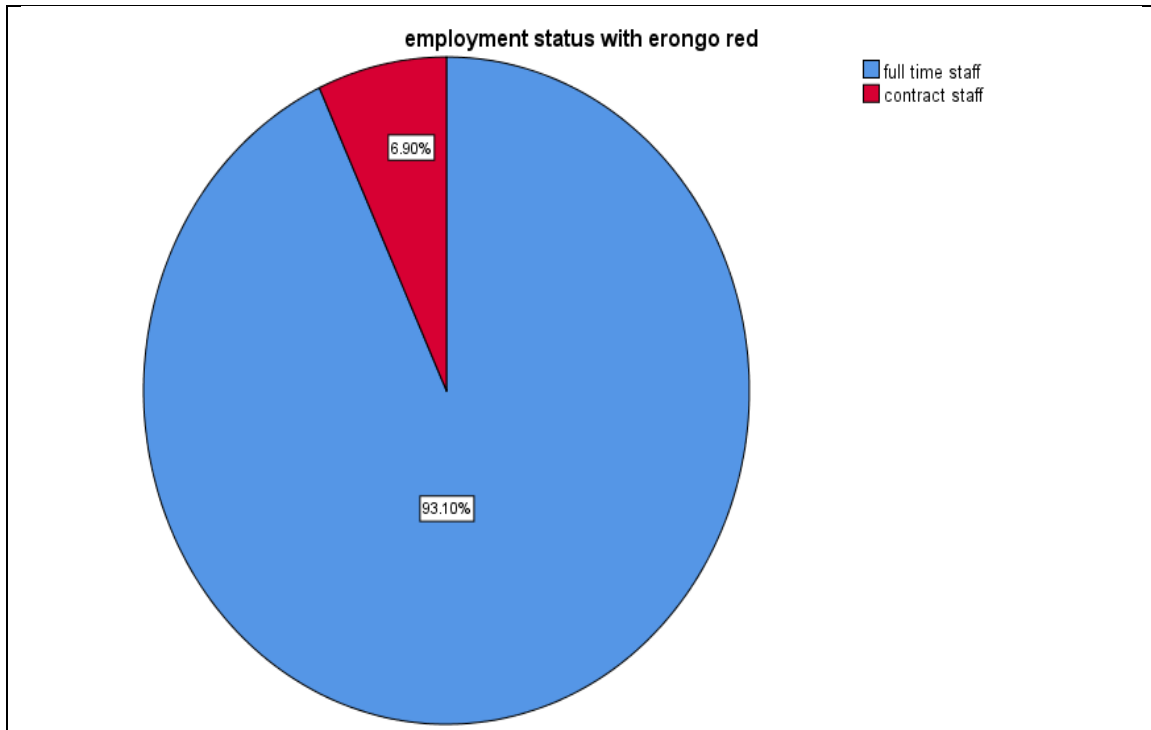
Figure 2: Employment status with Erongo Red

The results above show that 93.1 % surveyed respondents were full-time employees and only 6.9% were employed on a contract basis. It is evident that the majority of the respondents were employed on a fulltime basis as opposed to contract workers. Thus, it can be said that Erongo RED is an employer of choice.

4.3.5 Department (business unit) of employment
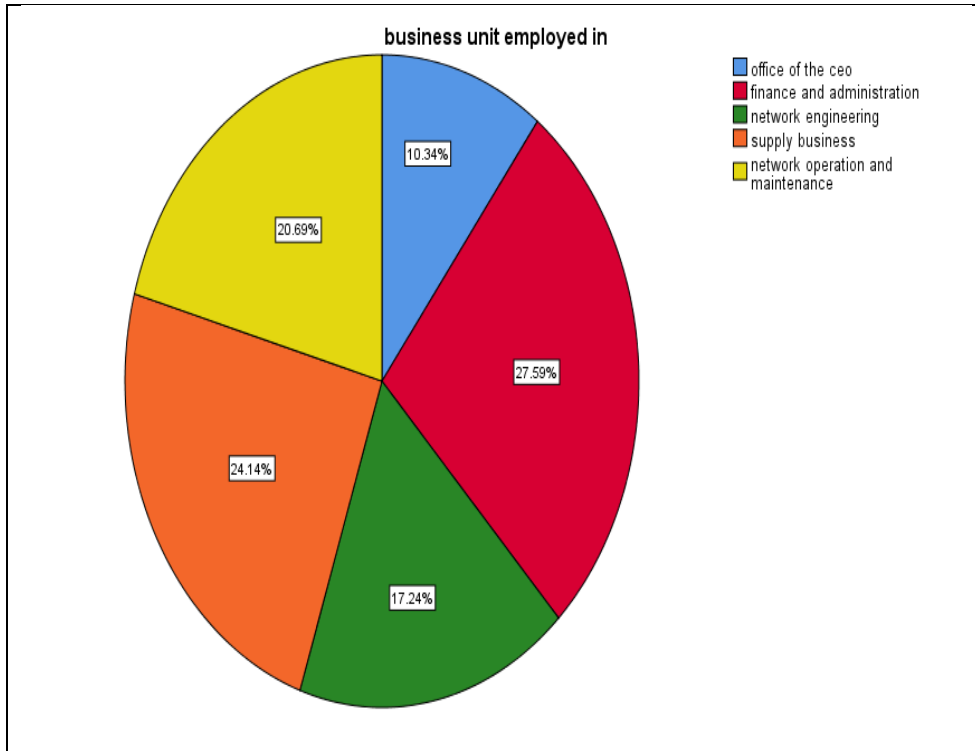
Figure 3: Business units of respondents

The above pie chart gives the statistics of the department of the surveyed respondents. In total, 29 respondents employed by Erongo Red took part in the survey of which 27.59% were from finance and administration department. Supply business unit was second in the row with 24.14%, followed by network operation and maintenance with 20.69% respectively while, 17% were from the network engineering business unit, the remainder 11% represented the office of the Chief Executive Officer.

4.3.6 Job level of respondents
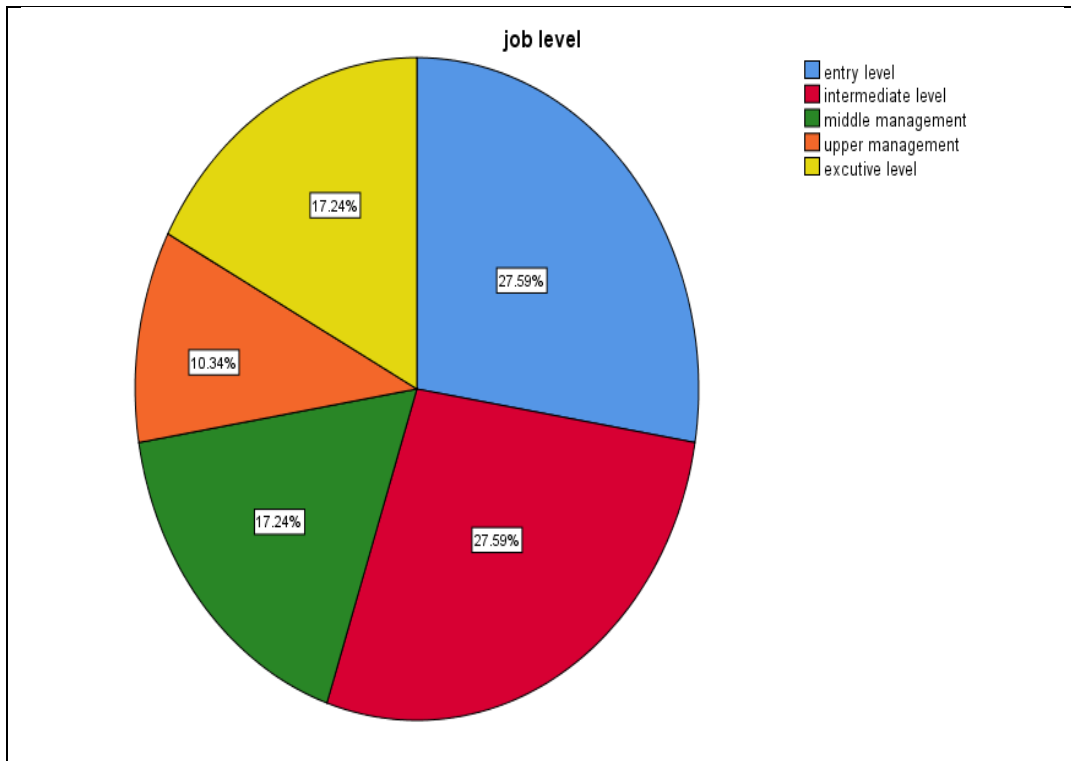
Figure 4: Job category of the respondents

The pie chart above shows that the study reached five employee levels. Most of the respondents were at entry level (27.59%) for both respondents at entry and intermediate levels. The reason why the majority of respondents were from entry and intermediate level jobs could be attributed to the dynamics of Erongo Red or any other firm where there are more subordinates as compared to managers and executives. Middle management and executives were next in the row with 17.24% each. Small proportions of 10.34% consisted of the upper management who had senior roles. It should be also noted that the executives were reached using key informant interviews.

4.3.7 Distribution of respondents by years of working experience

Below is a figure that demonstrates the number of years of work experience of surveyed respondents
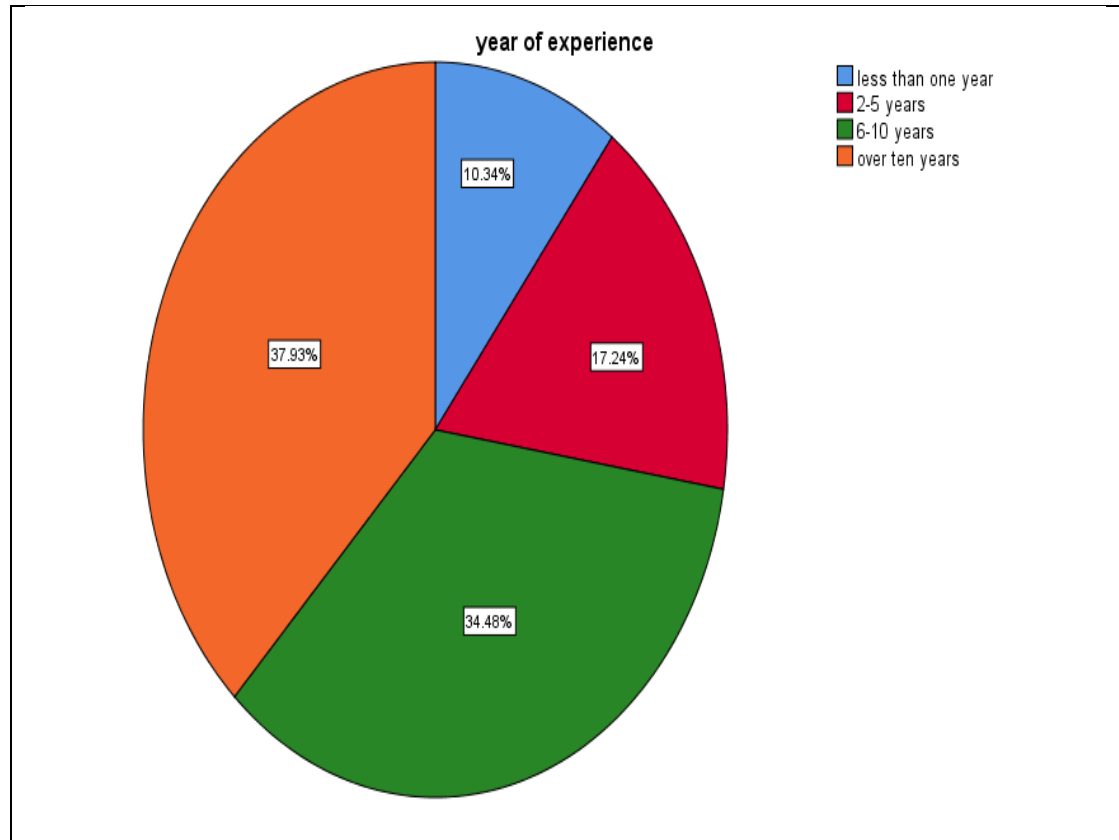
Figure 7: Number of years employed by Erongo RED

It was found that the majority (37.93%) of the respondents had been employed for longer than ten years. Respondents employed for 6-10 years were 34.48% followed by 17.24% which is categorised by those participants who had been employed for a period of 2-5 years. The study also reveals that only 10.34% of the surveyed respondents had indicated that they had been employed with the company for less than a year. It was important for the study to establish the work experience of the surveyed participants as it would describe the respondents' experience and familiarity with the subject under investigation. The

majority of the respondents had served for over ten years; it is good for the study as it meant that the sampled/surveyed respondents had enough experience.

4.3.8 Respondents' area of residence –customers

The study also unveiled the area of residence of the participants. Figure 8 below presents the results.
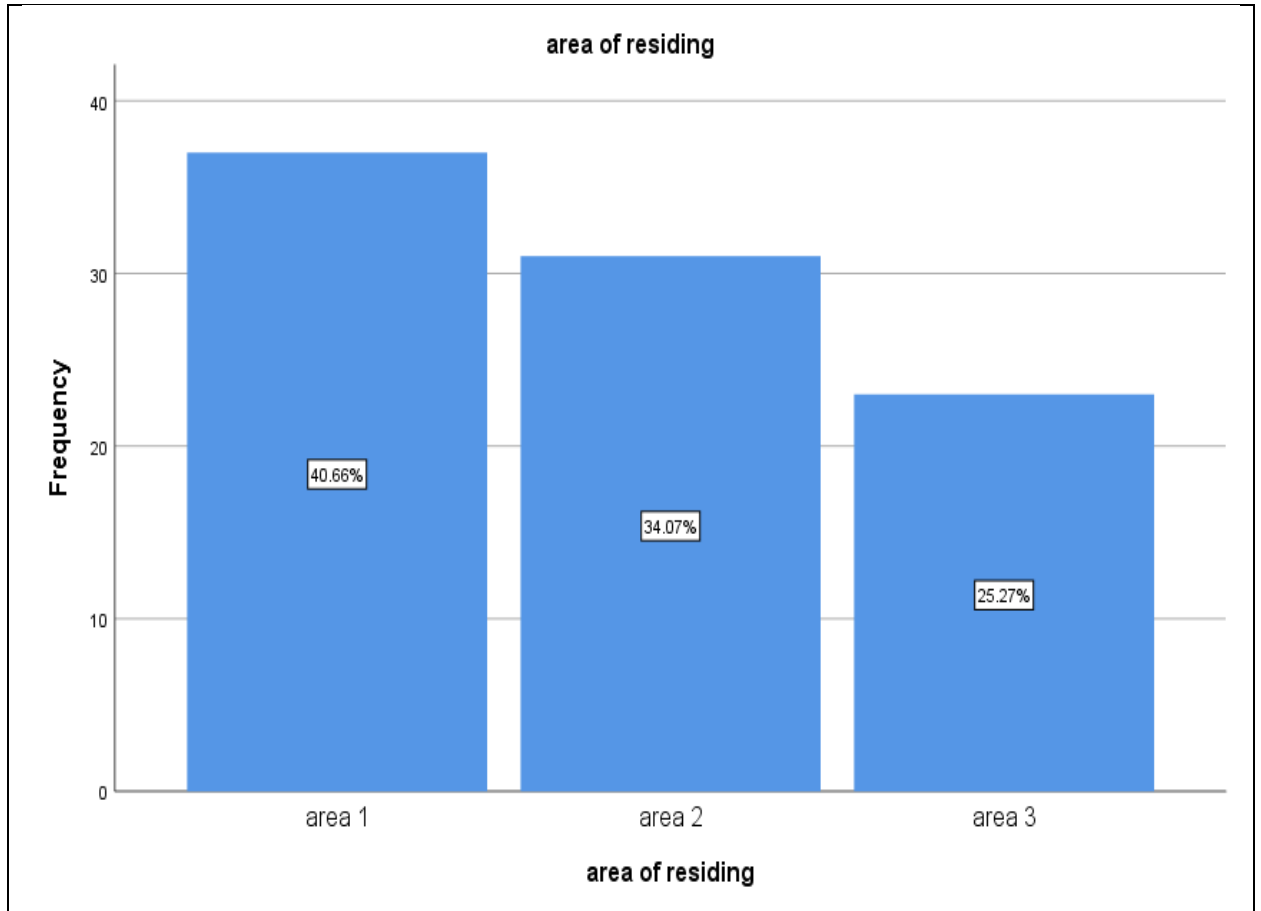
Figure 5: Customers area of residence

Figure 8 shows that 41% of the respondents were residents of area 1, representing Walvis Bay town and this is where the head office is situated. Those who are residence in area 2 (Swakopmund, Henties Bay, and Arandis) constituted 34%, while 25% of the respondents were from area 3 (Uis, Omaruru, Karibib, Usakos).

4.3.9 Employment status of the participating customers

The study also established the employment status of the participants. Figure 9 below

presents the results.
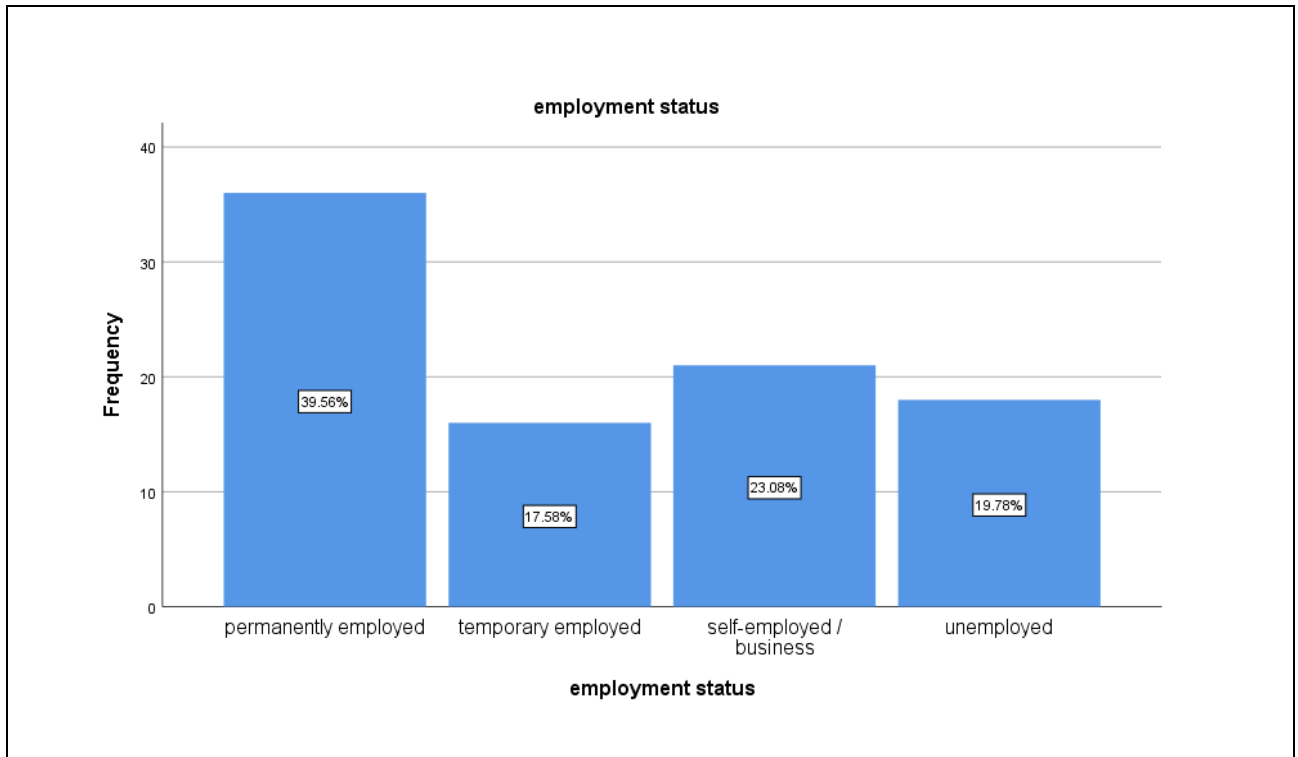
Figure 6: Customers' employment status

The results above show that 40% of the respondents were permanently employed while

23% were self-employed, 20% were unemployed, and 18% were temporarily employed.

Table 4-5: Frequency distribution of factors and challenges contributing to

inadequate revenue generation and collection

Political interference	Frequency	Percentage
Total of respondents who agreed	14	48.2
Neutral	9	31.1
Total of respondents who disagreed	6	20.7
Theft of copper wires, thefts though bypassing, tempering and illegal connection	**Frequency**	**Percentage**
Total of respondents who agreed	24	82.8
Neutral	2	6.9

Total of respondents who disagreed	3	10.3
Technical loses through conductors and transformer	**Frequency**	**Percentage**
Total of respondents who agreed	15	51.7
Neutral	10	34.5
Total of respondents who disagreed	4	13.7
Poverty and unemployment	**Frequency**	**Percentage**
Total of respondents who agreed	17	58.6
Neural	6	20.7
Total of respondents who disagreed	6	20.7
Lack of human capital and technical skills	**Frequency**	**Percentage**
Total of respondents who agreed	14	48.2
Neutral	9	31.0
Total of respondents who disagreed	6	20.7
Incorrect processing of customer applications	**Frequency**	**Percentage**
Total of respondents who agreed	26	89.7
Neutral	1	3.4
Total of respondents who disagreed	2	6.9
Incorrect billing as a result of inaccurate meter readings	**Frequency**	**Percentage**
Total of respondents who agreed	22	75.9
Neutral	3	10.3
Total of respondents who disagreed	4	13.8
Technical and administrative error	**Frequency**	**Percentage**
Total of respondents who agreed	27	93.1
Neutral	1	3.4
Total of respondents who disagreed	1	3.4
The current economic situation	**Frequency**	**Percentage**
Total of respondents who agreed	23	79.3
Neutral	5	17.2
Total of respondents who disagreed	1	3.4

Source: Primary data

The frequency distribution in Table 4-5 for factors and challenges contributing to inadequate revenue collection appear to bolster the story that has been narrated above. These results indicate that the majority agreed that political interference was linked to factors hindering revenue collection (48%), that (51.8 %) of respondents disagree that human capital and technical skills were not a challenge or a sub-factor linked to inadequate revenue generation and collection. Moreover, the majority of the respondents agreed that theft of copper, tampering and illegal connection (83%), technical loses (52%), poverty and unemployment (59%), incorrect processing of customer application (90%), incorrect

billing (76%), technical and administrative error (93%), as well the current economic crises (79%) appeared to be the contributing factors and challenge for inadequate revenue collection at Erongo RED. From the results, it can be deduced that there was a need for an awareness campaign to educate community members on the issue of copper thefts, tampering, and illegal connection. It should also be noted that there is need to train employees responsible for data capturing and meter reading to reduce a high number of incorrect processing, incorrect billing, and administrative error.

Table 4-6: Frequency distribution of the relationship between service delivery and revenue collection.

Lack of guidelines and policies on revenue collection strategies	Frequency	Percentage
Total of respondents who agreed	15	51.7
Neutral	4	13.8
Total of respondents who disagreed	10	34.5
Inconsistency in collection action against defaulters by Erongo Red	**Frequency**	**Percentage**
Total of respondents who agreed	13	44.8
Neutral	9	31.0
Total of respondents who disagreed	7	24.1
Customer dissatisfaction with service delivery	**Frequency**	**Percentage**
Total of respondents who agreed	14	48.3
Neutral	4	13.8
Total of respondents who disagreed	11	37.9
Inability to access locked meters in private and business complexes	**Frequency**	**Percentage**
Total of respondents who agreed	20	69.0
Neutral	1	3.4
Total of respondents who disagreed	8	27.6
Incorrect billing and administrative errors contribute to non- payment by some customers	**Frequency**	**Percentage**
Total of respondents who agreed	23	79.4
Neutral	3	10.3
Total of respondents who disagreed	3	10.3
Lack of revenue collection plan and awareness campaigns	**Frequency**	**Percentage**

Total of respondents who agreed	15	51.7
Neutral	5	17.2
Total of respondents who disagreed	9	31.0
Lack of regular community engagement in tariffs drafting	**Frequency**	**Percentage**
Total of respondents who agreed	8	27.5
Neutral	5	17.2
Total of respondents who disagreed	16	55.1
Unresolved queries discourage customers to pay	**Frequency**	**Percentage**
Total of respondents who agreed	22	75.8
Neutral	1	3.4
Total of respondents who disagreed	6	20.7
Customer education	**Frequency**	**Percentage**
Total of respondents who agreed	23	79.3
Neutral	2	6.9
Total of respondents who disagreed	4	13.7

Source: Primary data

The result in Table 4-6 shows that lack of guidelines and policies (52%) was considered to be a contributing factor towards inconsistency in collection action against defaulters 45% ($n = 18$) of the responses. The underlying factors such as dissatisfaction with service delivery (48%), unresolved queries (76%) incorrect billing, and administrative error (79%) were considered as the major driving factors for non-payment of service by some customers. Evidence gathered through the questionnaire shows that inability to access locked meters 69% ($n = 20$) of the responses negatively affected the collection of revenue in some private and business complexes. On the other hand, most of the respondents agreed that revenue collection awareness campaign (52%) and customer education (79%) appeared not to be considered essential for revenue collection. The respondents disagreed that there was is lack of regular community engagement in tariff drafting 55% ($n = 16$) of the responses. These results paint a picture which discourages the customers from paying for the service timeously. It also informs the company that there is a need to survey all locked premises.

Table 4-7: Frequency distribution of customers' attitude towards utilisation of electricity

Responsibility to pay for service rendered on time	Frequency	Percentage
Total of respondents who agreed	66	72.6
Neutral	9	9.9
Total of respondents who disagreed	16	17.6
Report electricity thefts and infrastructure vandalism	**Frequency**	**Percentage**
Total of respondents who agreed	58	63.8
Neutral	17	18.7
Total of respondents who disagreed	16	17.6
Unwillingness and ignorance to pay	**Frequency**	**Percentage**
Total of respondents who agreed	27	29.7
Neutral	24	26.4
Total of respondents who disagreed	40	44.0

Source: Primary data

Seventy-three percent of the respondents felt that people should pay for services while the remaining 9.9% were neutral and 17.6% disagreed with the statement. This could be attributed to the perceived good services offered by Erongo RED. It is worth noting that there is a need to take measures to continue improving service to encourage residents to pay for service rendered on time. Sixty-four percent is for those who felt that they had a responsibility to report any electricity thefts and infrastructure vandalism. This indicates a good sense of ownership by community members. The majority of the respondents disagreed that unwillingness and ignorance to pay for service was caused by poor service delivery by Erongo RED employees. This is a sign that the employees are not customer focused.

Table 4-8: Frequency distribution of customers' challenges

Affordability and annual electricity price increase	Frequency	Percentage
Total of respondents who agreed	62	68.2
Neutral	14	15.4
Total of respondents who disagreed	15	16.5
Poverty and unemployment	**Frequency**	**Percentage**

Total of respondents who agreed	62	68.1
Neutral	18	19.8
Total of respondents who disagreed	11	12.1
The current economic crises	**Frequency**	**Percentage**
Total of respondents who agreed	59	64.9
Neutral	23	25.3
Total of respondents who disagreed	9	9.9

Source: Primary data

The results in Table 4-8 above show that all respondents agreed that affordability and annual price increase (68%), poverty and unemployment (68%) as well as the current economic crises (65%) were considered personal challenges which contributed to non-payment of service by some customers. The fact that the latter percentage is less than 100% means that some respondents did not consider these factors as personal challenges while others were undecided (neutral). This is not surprising given the current economic crises which are increasing the existing level of poverty and unemployment in the country. As a result, it is expected that the customer unaffordability arises due to poverty and unemployment. It should also be noted that the company will also face affordability problems such as inflation, repo rate, and foreign exchange rate when purchasing this commodity because of the current economic crises.

Table 4-9: Frequency distribution of customer's views on the relationship between revenue collection and service delivery.

Dissatisfaction with service delivery	**Frequency**	**Percentage**
Total of respondents who agreed	32	35.2
Neutral	24	26.4
Total of respondents who disagreed	35	38.5
Incorrect electricity billing discourages me to pay	**Frequency**	**Percentage**
Total of respondents who agreed	47	51.7
Neutral	21	23.1
Total of respondents who disagreed	23	25.3
Erongo Red offices are not strategically located	**Frequency**	**Percentage**

	Frequency	Percentage
Total of respondents who agreed	27	29.7
Neutral	9	9.9
Total of respondents who disagreed	55	60.5
An incentives programme to write off interest and penalties will encourage me to pay	**Frequency**	**Percentage**
Total of respondents who agreed	68	74.7
Neutral	14	15.4
Total of respondents who disagreed	9	9.9
Incorrect meter readings contribute to non-payment	**Frequency**	**Percentage**
Total of respondents who agreed	46	50.6
Neutral	24	26.4
Total of respondents who disagreed	21	23.1
Unresolved issues and queries discourage me to pay	**Frequency**	**Percentage**
Total of respondents who agreed	51	56.0
Neutral	18	19.8
Total of respondents who disagreed	22	24.2

Source: Primary data

Table 4-9 results show that the majority of the respondents disagreed that the relationship between service delivery and revenue collection influenced dissatisfaction with service delivery (39%) and that the offices are not strategically located (61%). On the other hand, the majority of the respondents agreed that incorrect billing (52%), incorrect meter readings (51%), and that unresolved issues and queries had a correlation with service delivery and revenue collection. The result relating to service delivery and non-payment relationship here appears to be in favour of the statement that asked the respondents whether an introduction of incentives programme to write off interest and penalties on the due amount would encourage them to pay, and the level of agreement was 75%. These results paint a picture which indicates that billing administration at Erongo RED is very weak.

4.4 CORRELATION ANALYSIS

Table 4-10 below shows the Pearson Correlation between customer demographics, reporting of electricity thefts, infrastructure vandalism, dissatisfaction with service, and introduction of an incentive programme

Table 4-10: Pearson Correlation Matrix

		Report electricity thefts and infrastructure vandalism	Customer dissatisfaction with service delivery	An incentives programme to write off interest and penalties
Gender of respondent	**Pearson Correlation**	0.064	-0.064	-0.077
	Sig. (2-tailed)	0.550	0.545	0.470
	N	91	91	91
Age group of respondents	**Pearson Correlation**	0-.155	-0.072	-0.209*
	Sig. (2-tailed)	0.141	0.501	0.047
	N	91	91	91
Area of residing	**Pearson Correlation**	0.282**	-0.329**	-0.272**
	Sig. (2-tailed)	0.007	0.001	0.009
	N	91	91	91

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
N = 91 for all calculations
Source: Author estimations

Table 4-10 above shows that the correlation between the age group of respondents and an incentives programme was -0.209 which shows a strong negative correlation significance at 0.05 levels (2-tailed). The correlation between the area of residence and report electricity thefts and infrastructure vandalism was 0.282. This indicates a strong positive correlation significance at 0.01 levels (2-tailed). There is also a strong negative

correlation between the area of residing and customer dissatisfaction at the 1% level of significance. Similarly, an incentive programme is also correlated with the area of residence at the 1% level of significance. This also means that customer dissatisfaction with service delivery depends on the area of residence.

Table 4-11: Frequency distribution of customer understanding of monthly invoice

Do you understand all service charges on your invoice?	**Frequency**	**Percentage**
Yes	54	59.3
No	31	34.1
Not sure	6	6.6
Is it true that accounts must be settled on or before the 07th of each month?	**Frequency**	**Percentage**
Yes	65	71.4
No	12	13.2
Not sure	14	15.4
Do you understand why Erongo Red charges a basic ECB and NEF levy?	**Frequency**	**Percentage**
Yes	32	35.2
No	47	51.6
Not sure	12	13.2
Do you understand the difference between the current and previous meter readings?	**Frequency**	**Percentage**
Yes	45	49.5
No	33	36.3
Not sure	13	14.3
Do you often receive your monthly invoice timeously?	**Frequency**	**Percentage**
Yes	29	31.9
No	58	63.7
Not sure	4	4.4
Are you aware of all Erongo Red payment methods?	**Frequency**	**Percentage**
Yes	59	64.8
No	25	27.5
Not sure	7	7.7
Do you know where to enquire should you have a question about your account?	**Frequency**	**Percentage**
Yes	65	71.4
No	14	15.4
Not sure	12	13.2
Do you think you are getting value for your money?	**Frequency**	**Percentage**

Yes	27	29.7
No	50	54.9
Not sure	14	15.4
Do you think it is relevant to indicate your account numbers on the bank deposit slip and online banking payment as a reference?	**Frequency**	**Percentage**
Yes	57	62.6
No	18	19.8
Not sure	19	17.6

Source: Primary data

Table 4-11 shows the frequency distribution for the understanding and readiness of the monthly invoice. On the question of whether they understood all charges on the invoice, the majority of the respondents (59%) agreed that they did and those who disagreed were (34%), the remainder of 7% were unsure. On the question of whether the account must be settled on or before the 07th of each month, about 72% of the respondents agreed, while 15% were not sure. The results additionally show that about 52% did not understand why Erongo RED charged a basic ECB and NEF levy, while 35% understood the reason. The majority of the respondents (50%) understood the difference between the current and previous meter readings. The study further revealed that 65 % of the respondents were aware of Erongo RED payment methods. It is worth noting that the respondents thought it was very crucial to indicate account numbers as a reference on the bank deposit slip and online banking payment (63%). The rest of the results show that the majority of respondents do not receive their monthly invoices timeously (64%).

Table 4-12: Correlations between demographic profiles (in terms of customers) and understanding of monthly invoice.

		Do you understand all service charges on your invoice?	Are you aware of all Erongo Red payment methods?	Do you know where to inquire should you have a question about your account?	Do you think you are getting value for your money?	Is it relevant to indicate your account numbers on the bank deposit slip and online banking as a reference?
gender of respondent	Pearson Correlation	0.058	0.015	-0.097	-0.072	-0.044
	Sig. (2-tailed)	0.584	0.888	0.361	0.497	0.682
	N	91	91	91	91	91
age group of respondents	Pearson Correlation	-0.095	0.006	-0.118	-0.066	-0.057
	Sig. (2-tailed)	0.370	0.957	0.267	0.535	0.594
	N	91	91	91	91	91
area of residing	Pearson Correlation	0.237^*	0.415^{**}	0.249^*	0.210^*	0.208^*
	Sig. (2-tailed)	0.024	0.000	0.017	0.046	0.048
	N	91	91	91	91	91

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
N = 91 for all calculations
Source: Author estimations

Table 4-12 shows the results of the Pearson Correlation 2 tailed test for demographic profiles, understanding, payment methods, where to inquire, value for the money and reference number. The results indicate that both variables are not correlated with the gender of respondents and the age group of the respondents. This means that there is no

correlation between the above variables and the demographic profiles (in terms of customers).

Table 4-12 shows the results of the Pearson Correlation test where the study tested the following correlation significant:

- There is a strong positive correlation between the area of residence and understanding at the 0.05 (2-tailed) level of significance.

- There is a strong positive correlation between the area of residence and payment methods at the 0.01 (2-tailed) level of significance.

- There is a strong positive correlation between the area of residence and where to inquire at the 0.05 (2-tailed) level of significance.

- There is a strong positive correlation between the area of residence and whether they are getting value for their money at the 0.05 (2-tailed) level of significance.

- There is a strong positive correlation between the area of residence and whether the reference number is relevant at the 0.05 (2-tailed) level of significance.

4.5 AN ANALYSIS OF THE QUALITATIVE QUESTIONS

In this section, the study analyses the findings from both the employee and customer open-ended questionnaires and the interviews that were conducted with the executive managers of Erongo RED.

4.5.1 Employee open-ended questions analysis

The first open-ended question in this section required the respondents to indicate how they could contribute to Erongo RED in achieving its vision using revenue collection as a

factor. It should be noted that the respondents did not have uniform answers to this question. The findings showed that 80% of the respondents said that they would remain accountable, maintain teamwork, integrity, commitment, customer focus, and protected the image of the company. They further indicated that employee consistency and compliance with policies and regulations was very crucial for the company to reach its goals and vision. They felt revenue collection was an essential part of any organisation. Therefore, they suggested that the company move into automatic disconnection system for regular defaulter customers to enhance revenue collection. The information from the interviews conducted also supported this finding. Some of the interviewees mentioned that in terms of revenue collection, Erongo RED vision could be met by dormant migrant customers disconnected due to non-payment into consuming customers through debt management system and engaging the government to assist with rural electrification funding. They further said that nowadays technology played a major role in revenue protection such as smart metering and energy management. It should also be noted that just as established through the Likert scale question analysis, experience was valued more highly by executive as compared to ordinary employees at the entry level.

The second open-ended question required the respondents to add anything else. The study did not put any percentages of these responses because the majority of respondents did not respond to this question. The respondents proposed the following guides to eradicate poor revenue collection:

- Incentives programme to write off interest and penalties on due accounts
- Customer education

- Offer subsidies tariff to vulnerable and pensioners

- Training data capturers and billing officials

- Introduction of automatic disconnection system

- Recruit revenue protection technicians per area

- Recruit revenue recovery officer

- Move to the smart metering system

- Introduction of an automatic metering system for residential customers

4.5.2 Customer open-ended question analysis

The study also analysed the findings from section B of the questionnaire. The first question required the respondents to indicate if they believed people should be pay for electricity monthly. It should be noted that the respondents did not have uniform answers to this question. The findings showed that 75% of the respondents said that the government should subsidise electricity more particularly for vulnerable and pensioners who were not able to pay the monthly bills. About 20% of the respondents cited that it was their responsibility to pay their monthly bills while the remainder of 5% respondents did not answer this question. The second question asked the respondents if they had settled their latest bill. Twenty percent of the respondents agreed that they had done so. It is worth noting that Erongo RED due date for payment is the 07th each month. Some of the respondents were given questionnaire ten days before the due date. The majority of respondents (80%) disagreed with this question. The result shows that the answer to this question included among others:

- It is not yet the due date

- I did not receive my invoice

- I do not have money to pay

- I am unemployed

- There are unresolved queries on my account. I will settle it before the issue is resolved.

The respondents were further asked to indicate if they were satisfied with Erongo RED service delivery. It should be noted that the study does not give the percentage for this response because each respondent suggested one or two different answers. Delay in invoice delivery, telephone not answered, electricity high tariffs, lack of network maintenance and upgrade were some of the aspects of dissatisfaction with service delivery mentioned by some of the respondents. However, some of the respondents were happy with Erongo RED service delivery.

The last qualitative question required the respondents to indicate additional information that they thought might be useful. Once again, the study does not give a percentage of the people who gave particular answers to this question because each respondent suggested one answer each and the majority of the respondent did not respond to this question. The respondents indicated that the following aspects would be useful to improve Erongo RED service delivery:

- Introduction of the 24-hour call centre

- Increasing number of the pre-paid vending machines in Omaruru, Usakos, and Karibib

- Introduction of Nampost debit order payment methods

- Introduction of an incentive programme to write off interest and penalties of due accounts

- The opening of pay point office in Ozondje location of Omaruru

4.5.3 Analysis of interviews for Erongo RED executive managers

A total of five (5) interviews were scheduled with Erongo RED executive managers. All the interviews were successfully carried out representing 100%. The interview response rate is shown in the table below.

Table 4-13: Interviews response rate

Category	Scheduled interviews	Interview carried out	Response rate
Total	5	5	100%

Source: primary data

Question 1: what should Erongo RED introduce as another revenue collection methods?

The results from the interviews showed that there was a mixed feeling on new collection methods to be introduced. The respondents mentioned that the following would be the best methods for efficient collection of revenue, (this is verbatim):

- Sms notification bills to customers before due date

- Automatic and remote disconnection

- Automatic meter reading for households

- Prepaid with an expiry date __(a prepaid meters indicating the expiry date for the units purchased)

- Invoice tracking system (to determine exactly which invoice is paid)

- ERP system that can be integrated with all billing and energy system for accurate statistic reporting

Question 2: What do you think are the main challenges faced by Erongo RED in terms of revenue collection?

Erongo RED executive managers highlighted some challenges. All the interviewed executive managers agreed that the major challenge was non-technical losses which occur due to power theft through tampering with the meters, illegal connection, inaccurate customers' details as well as inaccurate billing. Other cited challenges included among others; lack of trust in data (customer who switch on without opening an account), seasonal fishing quotas, high unemployment rate, current economic crisis, and slow payment from government institutions.

Question 3: Has revenue collection efficiency improved over the past five years (2013 – 2017)?

From the interviews, 5/5 (100%) of the executive managers revealed that revenue did improve compared to the past five years. However, 67% of the interviewed managers stated that they suspected the decline in the collection during the current financial year due to the current economic crisis in the country. It is worth noting that although a revenue recovery rate of 98% of what is billed as a good record, there was need to always keep improving.

Question 4: Is revenue collection enhancement plan essential for all REDs in Namibia?

On whether revenue collection enhancement plan was essential for all REDs; all the respondents (5/5) 100% stressed that it was indeed very crucial, however, it required ongoing intervention.

Question 5: What effect does inadequate revenue collection have in the company?

The respondents, 5/5 (100%) indicated that company insolvency, liquidity, as well as cash flow problem would occur because of inadequate revenue collection. Therefore, it is very vital to maintain adequate revenue collection to ensure company sustainability.

Question 6: How can your business unit contribute to ensuring that there is an improvement in revenue collection?

All 100% interviewees cited that the following should be introduced to increase revenue collection, (this is verbatim):

- Conduct regular meter audits and check metering (Erongo RED vs Nampower)

- Ensure accurate billing by reducing deviations

- Ensure all read accounts are levied

- Ensure revenue protection and management section are in place

- Recruit qualified employees with relevant qualifications, skills, and experience

- Maintain regular communication with the customer to improve data

- Migration of regular defaulters to pre-payment

- Implementation of ERP tracking system to ensure data integrity

4.6 DISCUSSION OF FINDINGS

4.6.1 Factors and challenges contributing to inadequate revenue collection

From the study, the most prevalent challenge affecting revenue recovery is non-technical loses. This information is derived from the fact that about 93% of the respondents agree that technical and administrative error is indeed the challenge hampering revenue collection at Erongo RED. This is surprising given the fact that a young company with well-educated and experienced employees had a high degree of administrative error which includes among others; meter swaps and incorrect processing of customer details, which generally leads to inaccurate billing and as a result the company loses revenue. Similar findings are also described in a study by Iita (2013).

The study further reveals that theft of copper wires and power theft through tampering with the meter and illegal connection were highlighted as some of the challenges. This finding concurs with what Dube (2014) who reported that the impact of the domestic prepaid meter on revenue generation is linked to the domestic consumers' fraudulent practices. Mohammed, Barua, and Arafat (2013) advance that the theft of electricity is so huge in some African states that power utilities incur some financial loses instead of getting revenue. Mavhungu (2011) also notes that illegal connection consumption has contributed to non-payments by some customers.

The results in table 4.5 show that the majority of the respondents indicated that poverty and unemployment were linked to inadequate revenue collection. Poverty and unemployment are the vicissitudes which reason non-payment of REDs services in

Namibia (Iita, 2013). According to the Namibia labour force survey report (2016), the unemployment rate in Namibia is two digits which is a remarkably high figure. The largest populace was in Erongo Region within low-income range. This creates a gloomy picture regarding the financial capabilities of the majority of Namibians to pay for these REDs fees. According to the Philips curve, unemployment and inflation are linked. Unemployment causes, and increases, crimes that have resulted in the illegal use of electricity and illegal connections by people trying to eke a living. The majority of cases of the unemployed often fail to pay for electricity. Poverty and unemployment force people to live on or below the poverty datum line (Mavhungu, 2011).

The study also reveals that the majority of the respondents (76%) agreed that incorrect billing was a factor affecting revenue collection at Erongo RED. The researcher observed that billed abnormal meters, was electricity billed even though it was not metered. Billed meter consumption is electricity that has been used and billed for in a month. It is best to always liaise with those in the billing department to acquire this information monthly. Unbilled metered consumption is electricity that not billed but is metered. It could be metered electricity supplied to Erongo RED offices without billing for usage. These empirical findings support the findings by Maina (2013), Iita (2013) and Mavhungu (2011).

4.6.2 Relationship between revenue collection, service delivery, and non-payment

Delaying payment to Erongo RED by customers' results in the revenue base to decline. Consequently, no services would be supplied for sustainable, effective, and efficient

services. According to the Erongo RED auditing report of ending 30 June 2016, customers' arrears of more than 120 days amounted to 22% of outstanding debt/arrears. This results in the company not being in a financial position to honour all its obligations of paying suppliers for goods and services. The study reveals that about 79% of the respondents agreed that there was lack of a revenue collection plan and awareness campaign. It should be noted that about 48% of the respondents agreed that customers' dissatisfaction with service delivery contributes to non-payment by some customers. This result concurs with the finding by Mavhungu (2011).

Further to that, the study also revealed that the majority of respondents regards to customer education (79%) and unresolved queries (76%) were some of the findings linked to services delivery and revenue collection. It is worth noting that there is a need for customer education to resolve queries that might discourage customers to pay their monthly bills on time. The study also reveals that inability to access lock meters in private and business complexes (69%) is linked to inadequate service delivery and non-payment. It should be noted that inability to access locked meters make it difficult for meter readings to be taken and the same applies to replacing such meters if the need arises. In contrast, Iita (2013) and Mvanghu (2011) argued that the estimated average readings are not a guarantee to the correct readings; this would result in loss of revenue because the customer might consume more than what was billed. They further argued that inconsistency in collection plan action against defaulters results in non-payment by some customers because there are no aggressive measures to control defaulters who miss the due date.

4.6.3 Attitudes and personal conditions

With regards to customer attitudes and personal conditions, about 73% of the respondents concur that they had a responsibility to pay for service rendered and that it was their responsibility to report any electricity theft and infrastructure vandalism (64%). The response of unwillingness and ignorance to pay sub-factors are mixed which implies that respondents disagree with the statement. These results are at variance with Maina, and Iita (2013) who found out that unwillingness and ignorance to pay was a result of customers attitudes towards payment of service rendered. The results in Table 4-8 revealed that all respondents agreed that affordability and annual price increase (68%), poverty and unemployment (68%) as well as the current economic crises (65%) are considered personal challenges which contributed to non-payment of service by some customers. These empirical findings support the findings by Maina (2013).

4.6.4 Customers' views on the relationship between revenue collection, service delivery, and non-payment

The results in Table 4-9 reveal that the majority of the respondents disagreed that the relationship between service delivery and non-payment is influenced by dissatisfaction with service delivery (39%) and that the offices were not strategically located (61%). On the other hand, the majority of the respondents agreed that incorrect billing (52%), incorrect meter readings (51%), and that unresolved issues and queries had a correlation with service delivery and non-payment. The result relating to service delivery and revenue collection relationship here appears to be in favour with the statement that asked the respondents whether an introduction of incentives programme to write off interest and

penalties on the due amount would encourage them to pay, and they agreed at 75% (Mbufu, 2013; Mavhungu, 2011).

4.6.5 Customer understanding of the monthly invoice

On the question of whether they understood all charges on the invoice, the majority of the respondents (59%) agreed and those who disagreed were (34%), the remainder of 7% were unsure. On the question of whether the account must be settled on or before the 07th of each month, about 72% of the respondents agreed, while 15% were not sure with the question. The results additionally showed that about 52% did not understand why Erongo RED charged a basic ECB and NEF levy, while 35% understood the reason why.

The majority of the respondents (50%) understood the difference between the current and previous meter readings. The study further reveals that 65 % of the respondents are aware of Erongo RED payment methods. It is worth noting that the respondents thought it was very crucial to indicate account numbers as a reference on the bank deposit slip and online banking payment (63%). The rest of the results showed that the majority of the respondents did not receive their monthly invoices timeously (64%). It is against this backdrop, that majority of respondents (55%) did not think they were getting value for their money. The results further indicate that non-payment as a factor of poor revenue collection caused by the inability to receive monthly invoices timeously and sometimes no invoices were received at all. This is in line with Mugasia's (2012) findings which established that there is a need for proper invoice distribution management and customer education.

4.7 CHAPTER SUMMARY

The current chapter presented, analysed and discussed the results of the study. The results showed the hindering factors and challenges as far as the revenue collection is concerned. The factor that stood out clearly as the factors which affected revenue collection is power theft through tampering and illegal connection. The chapter was also able to identify the weaknesses associated with inadequate revenue collection at Erongo RED. These weaknesses are will be used in coming up with the proposed revenue loss management strategy that is likely to stand the test of time if implemented. The chapter also highlighted the challenges that customers faced. It should be noted that there is a need for proper invoice distribution management and customer education. It was apparent that there is a correlation between service delivery and revenue collection. The next chapter presents the summary, conclusion, and recommendations for further research in this area of study.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.0 INTRODUCTION

The current chapter gives a conclusion of the entire study. Section 5.1 gives the appropriate conclusion to the study based on the objectives while Section 5.2 discusses whether the research objectives have been achieved or not and the necessary justifications. Section 5.3 makes the recommendations and suggestions on how the revenue collection of Erongo RED could be improved Section 5.4 give a summary of the research up to the methodology. Lastly, Section 5.5 gives suggestions for future researchers who want to either replicate or execute similar studies.

5.1 CONCLUSIONS

In this section, the study gives the conclusions that are based on the objectives of the study.

Objective 1: To examine the challenges Erongo RED faces with the collection of revenue

The study concludes that the biggest challenge affecting revenue collection is non-technical losses. The study concludes that administrative error is topping the list. This includes among others; meter swaps and incorrect processing of customer details. This information is derived from the fact that about 93% of the respondents agreed that technical and administrative error is indeed the challenge that has affected revenue collection at Erongo RED. The study further concludes that theft of copper wires, power

theft through tampering with the meters and illegal connections were some of the challenges hindering revenue generation at Erongo RED. It can also be concluded that unemployment and poverty were found to be challenges affecting payment of bills.

Objective 2: To assess the reasons why some customers do not pay for service rendered

The study concludes that non-payment is not influenced by dissatisfaction with service delivery or the inappropriate location of Erongo RED offices. Although the majority of the respondents revealed that they had a responsibility to pay for service rendered, non-payment is rather influenced by poverty and unemployment as well as the current economic crisis in the country. These are considered personal challenges which contribute to non-payment of services by some customers.

Objective 3: To establish the relationship between revenue collection and service delivery

The study concludes that 79% of the respondents agreed that there was lack of customer education. The study also concludes that unresolved queries (76%) are linked to service delivery. The study further concludes that the majority of respondents do not receive their monthly invoices timeously. The study further concludes that there is correlation relationship between revenue collection and service delivery. Therefore, the majority of the respondents did not think that they were getting value for their money.

5.2 ACHIEVEMENT OF RESEARCH OBJECTIVES

Firstly, the study was able to identify all the factors that were considered as causes of inadequate revenue collection. Secondly, using the Likert scale type of questions the study was able to determine the factors and challenges that affected revenue collection at Erongo RED. Thirdly, the study was able to identify the weaknesses identified by the relationship between revenue collection and service delivery. Lastly, the respondents indicated measures their business units would take to ensure there was improvement in revenue protection and collection.

5.3 RECOMMENDATIONS FOR ERONGO RED

Based on the results discussed, the research makes the following recommendations on the human capital, technology, customer care service, revenue protection and recovery for Erongo RED and the electricity industry in general. It should be noted that the recommendations are based on the weaknesses identified in the revenue collection process and the fact that there appears to be no uniformity in what Erongo RED does.

5.3.1 Human Capital

- **There is a need for continuous training of employees**

The study shows that 76% of respondents agreed that inaccurate billing was the cause of non-technical losses at Erongo RED. The study, therefore, recommends to management to conduct regular training of employees who work directly with meter installations and billing to reduce inaccurate billing.

- **There is a need for a Revenue Recovery Officer**

The study reveals that there is a need to identify the greatest revenue loss potential areas and prioritise investigations. There is also a need for loss classifications, speedy detection of illegal usage patterns and assigning a monetary value to these losses. The researcher recommends to management the creation of the position of revenue recovery officer.

- **There is a need for additional Revenue Protection Technicians**

Management of Erongo RED must consider recruiting additional Revenue Protection Technicians so that each area of operation has its own technician. This would improve the current investigation process timeframe.

5.3.2 Technology

- **There is a need to implement the Enterprise Resource Planning system**

From the results, it was established that there was a need for an invoice tracking system, to clearly trace what was paid per financial year. The study reveals that 98% of what was billed in the 2016/2017 financial year was recovered. However, June 2017 debtors' age analysis shows outstanding accounts in 90 and 120 days respectively. This alone indicates that there is inaccurate reporting. This could be invoices brought forward from the previous fiscal year that were only paid in the financial year under review. The current financial system seems not to provide accurate reporting data. In light of the key findings highlighted above, this study recommends the implementation of an Enterprise Resource Planning (ERP) system to improve statistics and data integrity.

- **There is a need to introduce cellphone bills**

Nowadays technology plays vital roles in revenue collection. Given the fact that the majority of respondents revealed that they do not receive their invoices on time, there is a need to send customers' bills through their cell phones on a monthly basis. The researcher, therefore, recommends to the management of Erongo RED to introduce an SMS notification facility to be sent to customers before the due date.

- **There is a need for remote disconnection**

The need to disconnect non-paying electrical customers is nothing new for the electricity industry worldwide, but the tools of today allow for more efficient handling of these arrears. Remote disconnection programmes will not only minimise energy losses but will also improve safety.

- **There is a need for a programmed prepayment credit meter**

The study found that some of the prepaid customers tend to purchase more units in an attempt to save for the next few months or so after the new tariffs are implemented. The company is losing more revenue due to this habit. The researcher, therefore, unequivocally recommends that the management of Erongo RED should do a pilot study and implement a system that automatically updates units available to a customer as tariffs change. This would have long-term benefits for the company and the electricity industry at large. The same study was conducted in 2016 by South African Revenue Protection (SAPRA) on Eskom Power Utility.

- **There is a need for Smart Metering**

From the benchmarking made during the study, the researcher was convinced that smart metering is a solution to manual disconnection, inaccurate and manual billing. Through using smart metering, fleet costs could be saved, and it would provide real-time energy usage information, which would improve the integrity of current revenue losses data system.

5.3.3 Revenue Protection and Recovery

- **There is a need to conduct regular tampering analysis**

The study reveals that there are inconsistencies in electricity tampering analysis. The research recommends to the management of Erongo RED to ensure that there is a consistency and uniformity in the prepaid usage patterns analysis. The management should identify problem customers and launch field investigations immediately. This is coming from the fact that most respondents said that power theft through tampering with the meter is one of the factors hindering revenue recovery.

- **There is a need for consistency meters and customer details audit**

There is a need to conduct more audits to reduce further non-technical losses, even though the industry benchmark is at 10%. The study established that there was a need to ensure accurate billing by reducing deviations. The researcher believes there is a need to ensure that all account meter readings are read and correctly captured on the system. Management

should ensure that regular customers' details audits are conducted to identify ghost customers and take remedial action.

- **There is a need for an energy loss management strategy**

The study reveals that Erongo RED does not have a loss management strategy in place. It is against this background that the study recommends to Erongo RED management to identify strategic objectives, focus areas and approaches on how to implement this strategy. Recommended focus areas include customer detailed audits, meter installation audits, energy reconciliation, implementation of tested technologies and sustainability among others. The study further recommends approaches which include audit methodology, revenue recovery methodology, energy losses modeling and pilot studies just to mention a few.

- **There is a need for revenue recovery strategies**

It is always a lot easier to get payment for a bill that is current and has been delivered to the right person on time. There is a need to have in place reliable measurement assessment systems. The study further reveals that there is a need for consistency in debt control by reviewing all site disconnected services and all overdue reconnections. There is a need to carry out the periodical door to door inspections and to ensure correct and timely resolution of all billing exceptions. Strategies should be put in place to serve as a revenue collection guide. The study also recommends the introduction of a flexible bill payment plan.

5.3.4 Customer Care Service

- **There is a need for customer education**

The responses obtained in most questions indicated that there were inconsistencies in customer education. The research recommends to the management to ensure that there is consistency and uniformity in the revenue collection procedures. This comes from the fact that most respondents said that they did not understand some of the charges on their invoices. Also, the fact that some of the respondents felt it was not their responsibility to pay for service rendered to them.

- **There is a need to introduce a 24-hour call centre service**

There is a need to improve the negative perceptions of customer service delivery in the Namibian public institutions. The researcher believes that the introduction of 24-hour call centres would translate into increased sales and quality services for customers and other stakeholders through ensuring that personnels are available 24/7.

- **There is a need to increase payment options**

The study established that the majority of pensioners and vulnerable customers in area 3 were using Nampost for banking purposes. The respondents suggest an introduction of the Nampost debit order payment option. The researcher believes that customers are entitled to the payment options of their choice as this would reduce excuses for the non-payment of accounts. It is against this background that the researcher recommends to the management of Erongo RED to enter into an agreement with Nampost.

5.4 SUMMARY OF THE RESEARCH

In the electricity industry just like in any other industry, issues to do with revenue losses negatively affect the company's performance. It is therefore important for the electricity distribution industry to attempt to come up with a good revenue protection system that fairly identifies revenue risk, investigates risks, and quantifies risk and also ensures that revenue loss is minimised. The first objective of the study was to investigate factors affecting revenue collection at Erongo RED. The factors noted include non-technical losses which include among others, theft of copper wires, power theft through tampering with the meter, inaccurate billing, and illegal connections. The reasons why some consumers do not pay for services rendered was the second objective that the study investigated. The third objective was to establish the relationship between revenue collection and service delivery. The literature reviewed showed that there has been little empirical investigation in the electricity industry on the factors that affect revenue collection, let alone, revenue protection and recovery. In addition, studies on revenue collection and recovery are scarce the world over, but they are more scarce in the developing countries such as Namibia. It is worth noting that both the theories and the empirical literature helped identify the variables that are important determinants of inadequate revenue collection. The literature review chapter also attempted to explain the relationship between revenue collection and service delivery. The study combined both quantitative and qualitative research approaches. The tools that were used to collect the data included questionnaires and an interview guide. The data collected using questionnaires was processed and analysed using the SPSS version 25 package.

5.5 SUGGESTIONS FOR FUTURE STUDIES

The current study investigated factors affecting revenue collection using Erongo RED as a case study. It would be important if future researchers could attempt to develop revenue protection and recovery strategies for REDs in Namibia and compare what they find with what is happening in other African countries and global communities. It would also be research worthy to establish if other REDs in Namibia experienced the same challenges as far as revenue collection is concerned.

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APPENDIX A: ACKNOWLEDGMENT OF CONSENT

Topic: Investigating the factors affecting revenue collection: A case study of Erongo Regional Electricity Distributor Company.

Dear Mr/Ms,

Thank you in advance for taking your time to partake in this survey. I am Tuulikki Nangula Nghifikwa, a student at Namibia Business School (NBS) at the University of Namibia (UNAM). I am pursuing a Master's degree in Business Administration (MBA) with a specialty in Finance. This survey is being conducted to write a thesis in partial fulfillment of the requirement for a Master's degree. Please be cognizant that your participation in the survey is voluntary. This survey will roughly take you 10 minutes to complete.

No personal identification is required in this survey. Please be assured that your response will be held anonymous. The results will be used for research purposes and only be published as well as presented in aggregate. Your accurate and specific response is important to the success of this survey. Should you need any clarification please do not hesitate to contact me on +264 81 6221410.

Your participation in this survey is highly appreciated

Yours Faithfully

_____

Tuulikki Nangula Nghifikwa

APPENDIX B: EMPLOYEE QUESTIONNAIRE

Section A – Demographics

This section of the questionnaires refers to the background or demographic information. Although the researcher is aware of how sensitive the questions in this section may be, the information will allow the researcher to compare groups of respondents. Once again, be assured that your response will remain anonymous.

Instructions: Please mark with an (X) sign in the appropriate box (s).

1. Please tick your Gender:

Female	
Male	

2. Please tick your age group:

Under 25	
25-30	
31-40	
41-50	
51-60	
Over 61	

3. Please indicate your highest level of education:

Less than Grade 12 (primary school)	
Grade 12 (secondary school)	
Certificate	
Diploma	
Bachelor's Degree	
Post graduate (including Honours)	

4. Please indicate your employment status with Erongo RED:

Full-time staff	
On contract	

5. Which business unit are you employed in:

Office of the CEO	
Finance & Administration	
Network Engineering	
Supply Business	
Network Operation & Maintenance	

6. What is your job level?

Entry Level	

Intermediate level e.g. supervisor	
Middle Management, e.g. Heads/Managers	
Upper Management e.g. Senior Managers	
Executive level e.g. Chiefs	

7. Please indicate the number of years you have been employed by Erongo RED:

Less than 1 year	
2-5 years	
6-10 years	
Over 10 years	

SECTION B – FOR ERONGO RED EMPLOYEES ONLY

Instructions: Please assess to what extent the following statement related to factors affecting revenue collection at Erongo RED. Indicate the degree of agreement or disagreement that fits the situation at Erongo RED. Please circle one choice for each of the following statements ($1 =$ **strongly agree**, $2 =$ **agree**, $3 =$ **neutral**, $4 =$ **disgree and** $5 =$ **strongly disagree**).

8. Factors and challenges contributing to inadequate revenue generation and collection

	SA	A	N	D	SD
Political interference is regarded as one of the factor affecting revenue collection.	1	2	3	4	5
Theft of copper wires, power thefts through tampering with meters, and illegal connections are contributing factors to the loss of revenue.	1	2	3	4	5
Technical loses through conductors and transformers are considered to be one of the challenges.	1	2	3	4	5
Poverty and unemployment are key factors affecting revenue collection at Erongo RED.	1	2	3	4	5
Lack of human capital, inadequate capacity, and technical skills to protect revenue is regarded as a factor contributing to inadequate revenue generation.	1	2	3	4	5
Incorrect processing of customers application such as inaccurate tariffs affects revenue generation and collection.	1	2	3	4	5
Incorrect billing as a result of inaccurate meter readings significantly affects revenue collection at Erongo RED.	1	2	3	4	5
Technical and administrative errors such as meter faults and linking of customers' accounts to incorrect meters are additional factors.	1	2	3	4	5
The current economic situation negatively affects the collection of revenue.	1	2	3	4	5

9. The relationship between service delivery, revenue collection, and non-payment

	SA	A	N	D	SD
Lack of guidelines and policies on revenue collection strategies contributes to non-payment by some customers.	1	2	3	4	5

Inconsistency in collection actions against defaulters by Erongo RED results in non-payment by some customers.	1	2	3	4	5
Customers' dissatisfaction with service delivery contributes to non-payment of their bills.	1	2	3	4	5
Inability to access meters locked in private and business complexes contribute to loss of revenue.	1	2	3	4	5
Incorrect electricity billing and administrative errors contribute to non-payment by some customers.	1	2	3	4	5
Overall, I believe the lack of revenue collection enhancement plan and awareness campaign contribute to non-payment.	1	2	3	4	5
Lack of regular community engagement in tariffs drafting is one of the contributing factors to non-payment of monthly bills.	1	2	3	4	5
Unresolved issues and queries such as unprocessed journals and payment not receipted will discourage customer to pay.	1	2	3	4	5
Customer education is critical to the enhancement of adequate revenue collection.	1	2	3	4	5

10. As an employee how can you contribute to making Erongo RED achieve its vision of "providing electricity to all by 2020".

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11. If you would like to add anything else, fill below:

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APPENDIX C: CUSTOMERS QUESTIONNAIRE

Section A – Demographics

This section of the questionnaires refers to the background or demographic information. Although the researcher is aware of how sensitive the questions in this section may be, the information will allow the researcher to compare groups of respondents. Once again, be assured that your response will remain anonymous.

Instructions: Please mark with an (X) sign in the appropriate box (s).

12. Please tick your Gender:

Female	
Male	

13. Please tick your age group:

Under 25	
25-30	
31-40	
41-50	
51-60	
Over 61	

14. Please show which area are you residing:

Area 1 – Walvis Bay	
Area 2 – Swakopmund, Henties Bay, Arandis	
Area 3 – Omaruru, Karibib, Usakos, Uis	

15. Please indicate your employment status:

Permanently employed	
Temporary employed	
Self-employed	
Unemployed	

SECTION B – FOR ERONGO RED CUSTOMERS

Instructions: Please assess to what extent the following statement related to your attitude, personal conditions, service delivery, non-payment, understanding, and readiness of monthly invoice by Erongo RED. Indicate the degree of agreement or disagreement that fits the situation at Erongo RED. Please circle one choice for each of the following statements $(1 = \text{strongly agree}, 2 = \text{agree}, 3 = \text{neutral}, 4 = \text{disagree and } 5 = \text{strongly disagree})$

5. Attitude

	SA	A	N	D	SD
I have a responsibility to pay for service rendered to me on time.	1	2	3	4	5
It is my responsibility to report any electricity thefts and infrastructure vandalism.	1	2	3	4	5
Unwillingness and ignorance to pay are caused by poor service delivery by Erongo RED employees.	1	2	3	4	5

6. Personal challenges

	SA	A	N	D	SD
Affordability and annual price increase of Erongo RED services contribute to non-payment.	1	2	3	4	5
Poverty and unemployment are high in Erongo Region and it, therefore, contribute to non-payment of bills.	1	2	3	4	5
The current economic crises in the country pose a challenge to pay for my account.	1	2	3	4	5

7. Service delivery and non-payment

	SA	A	N	D	SD
Dissatisfaction with service delivery contributes to non-payment of my bill.	1	2	3	4	5
Incorrect electricity billing discourages me to pay my account.	1	2	3	4	5
Erongo RED offices are not strategically located and therefore, I find it difficult to pay my monthly bill.	1	2	3	4	5
An incentives programme to write off interests and penalties on overdue accounts will encourage me to pay the due amount.	1	2	3	4	5
Incorrect meter readings contribute to non-payment of my account.	1	2	3	4	5
Unresolved issues and queries on invoice discourage me pay my account.	1	2	3	4	5

8. Understanding and readiness of monthly invoices (Tick the appropriate box to show your choice)

	Yes	No	Not sure
Do you understand all service charges on your invoice?			
Is it true that accounts must be settled on or before the 07th of each month?			
Do you understand why Erongo RED charges a basic ECB and NEF levy?			
Do you understand the difference between the current and previous meter readings?			
Do you receive your monthly invoice timeously?			
Are you aware of all Erongo RED payment methods?			
Do you know where to inquire should you have a question about your account?			
Do you think you are getting value for your money?			
Is it relevant to indicate your account numbers on the bank deposit slip and online banking as a reference?			

9. Do you believe people should be paid for their electricity bill monthly?   **Yes [   ] No [   ]**

10. If the answer to Question 9 is **No,** please give a reason why people should not pay their bills.

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11. Have you settled the latest bill? **Yes [   ]   No [   ]**

12. If the answer to Question 11 is **No,** please indicate why you did not pay your current bill.

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13. Are you satisfied with Erongo RED service delivery? **Yes [ ]   No [   ]**

14. If the answer to Question 13 is **No,** please state the reasons.

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15. Any other information you think may help or may be useful.

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APPENDIX D: FACE TO FACE INTERVIEW GUIDE – ERONGO RED EXECUTIVE MANAGEMENT

1. What revenue collection methods should be introduced by Erongo RED?

2. What do you think are the main challenges faced by Erongo RED in terms of revenue collection?

3. Has revenue collection efficiency improved over the past five years (2013 -2017)?

4. Is Revenue Collection Enhancement Plan essential for Erongo RED?

5. What effect does inadequate revenue collection have on the company?

6. How can your business unit contribute to ensure that there are improvements in revenue collection?