XHARIEP DISTRICT MUNICIPALITY
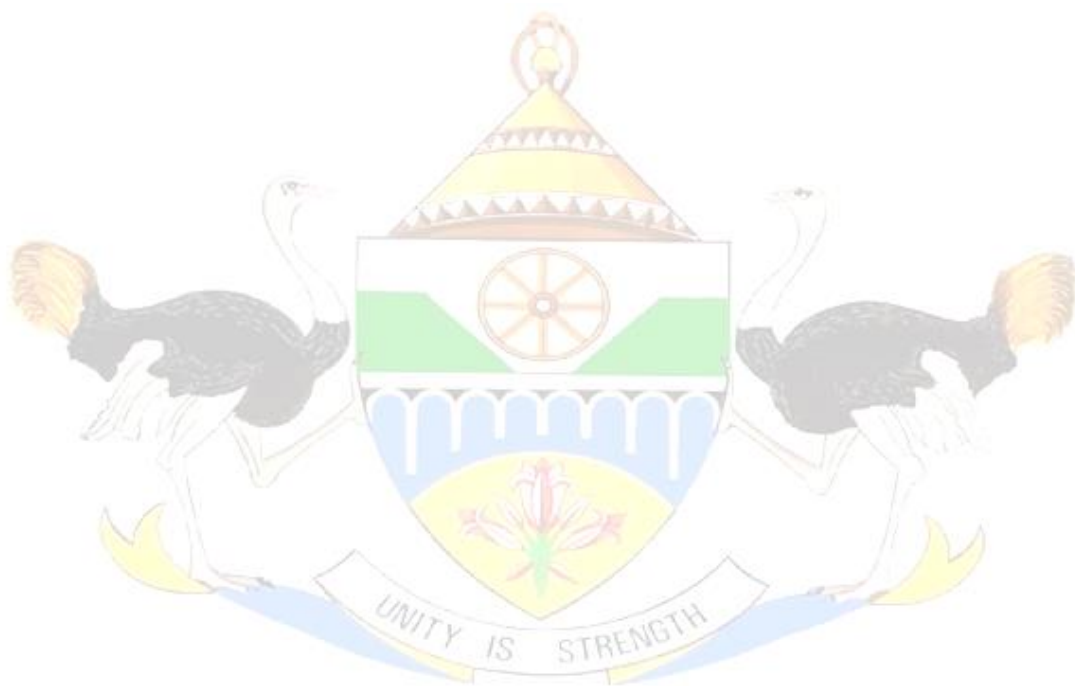
IT Governance Framework

AN AREA OF UNFOUND DIVERSITY

DOCUMENT SIGN OFF

NAME AND SURNAME:	DESIGNATION:	DATE:	SIGNATURE:
Mr. LY Moletsane	Municipal Manager		
Adv. ZQ Majenge	Director: Corporate Services		
Mr. A Tyhokolo	Manager IT		

DOCUMENT CONTROL

Author	Andile Tyhokolo
File Name	IT Governance Framework
File Path	
Date Created	May 2014
Date Last Edited	May 2014
Number of Pages	56

DOCUMENT VERSION

Version	Revision Date	Author/Modifier	Revision Description
1.0		Andile Tyhokolo	Document Creation

INTRODUCTION

IT is one of the key assets of a Municipality. IT, the people, processes, infrastructure and information - is embedded across the Municipality creating an enterprise wide community of owners and stakeholders. As a major investment IT is expected to deliver value and has been found to deliver greater 'value' for the municipality when used as a strategic enabler rather than being influenced by a stream of diverse tactical initiatives.

"A governance structure with buy-in and setting of responsibilities is essential…Developing and implementing strategy are not necessarily complimentary. Don't lose sight that strategy means strategy, vision and setting out the direction…Responsibility for implementation should be passed on for others to do.

International research revealed that top performing organizations manage their IT with governance structures that harmonize enterprise objectives and structures with performance goals and metrics. But, although IT governance is now recognized as the most influential factor in realizing 'value' from IT there is no single model that fits all and each institution will need to develop its own IT Governance to meet its unique requirements,

Now consider these key questions:

What is the Municipality's IT governance structure?

What are your institution's drivers in formulating IT Strategy?

How does the institution manage changes in strategy and exceptions from strategy?

How does the Municipality align institutional strategy and budgets with IT strategy and budgets?

How does the Municipality assign responsibility and accountability for IT implementations?

PURPOSE

The purpose of this document is to provide a clear high-level definition of the

- o IT Governance processes within Xhariep District Municipality;
- o IT Governance roles to support the processes;
- o The decision making process to be adhered to when making IT related decisions within Xhariep District Municipality; and
- o IT Governance tools and templates to support the processes

SCOPE

The Xhariep District Municipality IT Governance Framework is the central reference point for information pertaining to the IT Governance structure, supporting management framework and all key standards and processes. The Governance processes and structure deals only with projects that have a technical component.

AUDIENCE

The primary audience for this document is staff of Xhariep District Municipality involved in the following IT Functions;

- o IT Vision Development
- o IT Strategy Development
- o IT Project Prioritization
- o IT Project Approval
- o IT Budget and Planning
- o IT Project Implementation
- o IT Capability Definition and Measurement

STATEMENTS OF DIRECTION

- o The IT Steering Committee will be accountable for maintaining alignment between business and IT strategy and for successfully delivering business-driven IT solutions.
- o The IT Governance Framework will address the following high-level IT processes: Align Business and IT Direction, Formulate IT Strategy & Roadmap, Define and Approve IT initiatives and IT Planning.
- o The IT Steering Committee will oversee the IT governance process and ensure that IT-related decisions are consistent with business and IT strategy.
- o The scope of the IT governance framework will be limited to IT-related projects. The IT governance framework will <u>not</u> be applied to non-technical projects nor will IT be used to define XHARIEP DISTRICT MUNICIPALITY's Business Strategy.

GENERAL GOVERNANCE PRINCIPLES

THE XHARIEP DISTRICT MUNICIPALITY IT GOVERNANCE FRAMEWORK DEFINES:

- o Who plays what role within the structure;
- o What processes and procedures are to be used in the approval and Prioritization of Information Technology related proposals;
- o How decisions (approval, funding or resources) are made and by whom;
- o The criteria to be used when making decisions;

o   How proposals are prioritized to ensure that the IT strategies and Business strategies are satisfied; and
o   How issues are to be resolved and the escalation procedures where needed.

BENEFITS

The benefits of having an IT Governance model are as follows:

Aligns IT investments with strategic business initiatives;

Provides a mechanism for the business to drive IT investments;

Synchronizes IT direction with changes to business strategy and business processes;

Allows Xhariep District Municipality Business and the technology organization to work

together to make critical IT decisions that balance conflicting "demand-side" priorities (e.g., business requirements, customer responsiveness, technological evolution) with limiting "supply-side" priorities (e.g., IT resource constraints, cost containment, desire for leverage and economies of scale through standardisation);

Establishes specific roles and responsibilities for managing technology according to be agreed upon management principles;

Allocates IT resources to initiatives in a manner that optimises their impact on meeting business needs;

Uses fact-based mechanisms to resolve problems and monitor performance;

Leverages IT more effectively by applying IT direction and standards consistently across the organization; and ensures the right people are involved in the process at the appropriate time.

The following diagram illustrates the alignment between the various phases of business and IT strategy and planning,

IT Strategy, Planning and Alignment for Effective Decisions

What	Business Direction	Alignment →	IT Direction		
How & How Much	Business Strategy	Alignment →	IT Strategy	*Business Case for Change*	
How Much This Year	Business Plan	Alignment →	IT Plan	*Business & IT Budgets*	
Result	Strategic IT Programme Implementation (Business & IT jointly deliver)				
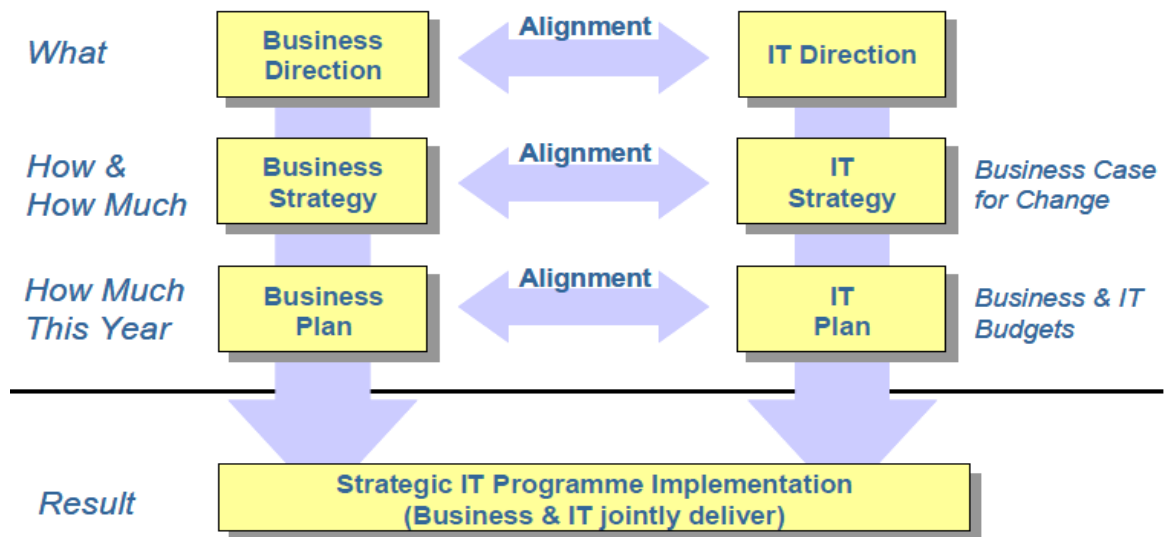
KEY SUCCESS FACTORS

The XHARIEP DISTRICT MUNICIPALITY IT Governance structure will be considered a success having satisfied the following factors:

Executive-level commitment and participation from the technology organization and XHARIEP DISTRICT MUNICIPALITY Business must exist;

XHARIEP DISTRICT MUNICIPALITY IT Strategies are aligned with the XHARIEP DISTRICT MUNICIPALITY Business Strategies;

Value for money is received for XHARIEP DISTRICT MUNICIPALITY's investment in Information Technology;

Clear accountabilities are defined and supported by guiding principles and organization structure;

Governance framework is flexible to accommodate business requirements;

Empowerment of the appropriate people to prioritize and approve projects / enhancements / new business initiatives according to set criteria, driven by the IT and Business Strategies; and

The effective co-ordination of development and support activities across the XHARIEP DISTRICT MUNICIPALITY technology organization

WHAT IS IT GOVERNANCE?

IT Governance is defines as 'specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT. The complexity and difficulty of explaining IT governance is one of the most serious barriers to improvement.'

IT governance is about who makes decisions while management is about making and implementing the decisions. Effective IT governance for the Municipality will answer three questions:

What decisions must be made?

Who should make these decisions?

How are they made and monitored?

HOW CAN IT GOVERNANCE HELP?

Good IT governance is the foundation for delivering strategic IT as it:

Align IT with institutional strategy:

It provides clear and visible decision making at the appropriate level of senior management, and with IT embedded across the institution, encourages more responsible and accountable business management, creating focus, understanding and improved delivery against goals. Alignment can deliver cost reductions, improved quality of service delivery, strategies for growth and strategies for diversification

Integrates structural requirements:

Institutional structures and IT services are harmonized to allow improved delivery of institutional goals. A less fragmented and more integrated approach to the use of IT will deliver improved quality of information from the rationalization and sharing of services

Integrates business and technology for IT value:

Involves professionals, research, administration and IT, resulting in improved decision making and buy-in for IT changes

Provides a mechanism for understanding the use and opportunities for IT:

Improved visibility and accountability for IT allows institutions to learn from their current IT experience and encourage improvements for the future. Mechanisms for allowing exceptions to strategy ensure a clear argument; value and justification are visible and understood

Improves budgetary control and return on investment:

Improved harmonization between institutional goals and IT accountability and performance measures improves budgetary control and value. Measures of success are defined as service levels and as evaluation criteria for projects

Improves selection and use of new technologies:

It supports IT in balancing technological advancement against business priorities and return on investment (ROI)

HOW IS IT GOVERNANCE USED IN THE MUNICIPALITY?

The variations in institutional structures, the different cultures influencing management styles and the ubiquitous nature of IT within every department leads to wide ranging differences in IT governance.

However, research findings can be used to highlight the practices that have been found to improve the delivery of strategic IT. This is presented in these findings across 4 areas as follows:
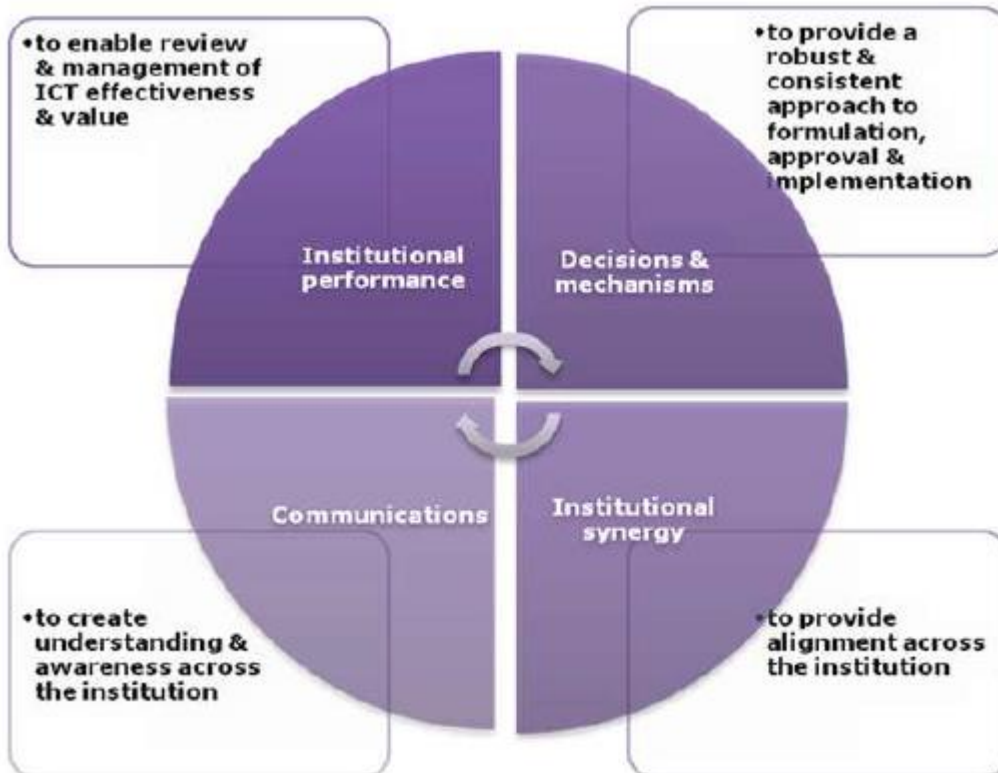
INSTITUTIONAL SYNERGY

The growing importance of IT in supporting institutional strategy and the need to provide agility requires that an institution is able to have a clear institution-wide view of both current use and future requirements for IT. Institutions have achieved this by:

The formulation of a documented and approved Master System Plan (MSP)

The cross reference of MSP to reinforce alignment to the institutional strategy

Using a process for review and updating of the strategy

GOVRNANCE DECISION AND MECHANISMS

In order to ensure that the correct decision are made regarding the deployment of services and systems, the following control mechanism and guidelines shall be put in place :

The IT steering committee must be established and vacant posts filled at all times.

The MSP must be approved by the Council and its implementation must be governed by the IT steering Committee.

The Information Technology Policy must be reviewed in accordance with the Municipal policy review processes and an Information Technology Officer must ensure its implementation under the guidance of the Information Technology Manager.

An IT decision making matrix must be established and used as a guideline for decision making at all level of the Municipality.

All IT investment must be deliberated and approved by the IT steering committee and must be in the MSP.

IT principles, policies and standards must be defined and adhered to. These assist in better decision making and management. It is expected that these will facilitate better investment proposals, progress reporting and measurements for value and ROI and therefore support improved accuracy and availability of information to assist decision making and management

IT GOVERANCE PROCESS

The IT Governance Process consists of four main stages, namely

Align Business and IT Direction,

Formulate   IT Strategy,

Define & Approve IT initiatives

and IT Planning

Depending on the given situation, the different stages will take different levels of effort to complete. Typically,   the following timings will apply:

Stage/Building Block	Trigger	Comment
Align Business and IT Direction	Event driven, typically every 2-3 years	Annual calibration or reconfirmation; duration driven by anticipated changes in the Business or IT environment; synchronize with Business and IT Direction stage
Formulate IT Strategy & Roadmap	Annual or triggered by major change in Business Direction or Requirements	Reconfirmation; duration driven by changes required by a new Business or IT environment and findings of the Baseline Assessment
Define & Approve IT Initiatives	On-going; formally conducted quarterly	Completed as part of the Annual Budget process, with formal updates conducted on a quarterly basis
IT Planning	Annual Processes	Synchronize with Annual Budget Processes

In addition to the four primary stages, there are also two supporting processes, namely Implementation and Measurement. Implementation is focused on the projects and programmes of work coming out of the IT Governance stages and defines a high-level project lifecycle for those initiatives.   These processes are coordinated by the XHARIEP DISTRICT MUNICIPALITY Programme Management Office. Measurements relate back to each IT Governance stage, which different levels of detailed metrics, based on what stage is being measured. The following timings apply:

Implementation	On-going; as part of the project and programme management process	Implementation is conducted as a part of the formalized XHARIEP DISTRICT MUNICIPALITY PMO processes.
Measurement	Follows the timings of each stage being measured	Each stage of the IT Governance Process will be measured. These metrics will
		have different levels of detail, areas of focus and timings, based on the stage being measured.

Note that a handbook has been developed for each stage in the IT Governance Process. In addition to the IT Governance Process Guide, these handbooks serve as a good starting point to understand the IT Governance Process and are referenced with in the Tools & Frameworks sections in the IT Governance Process Guide.

13

WHAT IS THE IT GOVERNANCE PROCESS AND WHAT IS IT NOT?

As IT governance is a complex process due to varying skill levels of those individuals involved and the uniqueness to situations, expectations regarding a tool to support the process of governance will certainly vary. The table below describes what can and what cannot be expected from the IT Governance Process.

What IT is	What IT is not
A description of the stages, tasks and steps necessary to support IT Governance	Not a substitute for experience, creativity and critical thinking needed throughout the IT Governance process
A set of tools, frameworks, and sample deliverables, which provide a common approach and language	Not an automated IT Vision, Strategy or Plan Generator and does not automatically determine the optimal IT strategy
Provides insights and approaches (content guidance) for some areas and issues of IT governance	Does not provide the answers to all content questions that might arise during the IT governance process
IT can be used to distribute templates for the different deliverables	Not a deliverables management system
IT is a "living" tool, which needs to be updated which new tools, additional descriptions, etc. as required	Not a "must follow" instruction for creating certain IT Strategy and Planning outputs – though, the core frameworks and the deliverables should be consistent throughout the organization
Method driven approach to IT	Does not in any way replace the need for continuous interaction between the technology organization and the business to discuss business and IT strategic matters and to identify required actions

INTERLECTUAL PROPERTY AND DISCLAIMER

The IT Governance Framework belongs to XHARIEP DISTRICT MUNICIPALITY.

IT is a "living" tool, which needs to be updated which new tools, additional descriptions, etc. as required	Not a "must follow" instruction for creating certain IT Strategy and Planning outputs – though, the core frameworks and the deliverables should be consistent throughout the organization

Method driven approach to IT governance	Does not in any way replace the need for continuous interaction between the technology organisation and the business to discuss business and IT strategic matters and to identify required actions
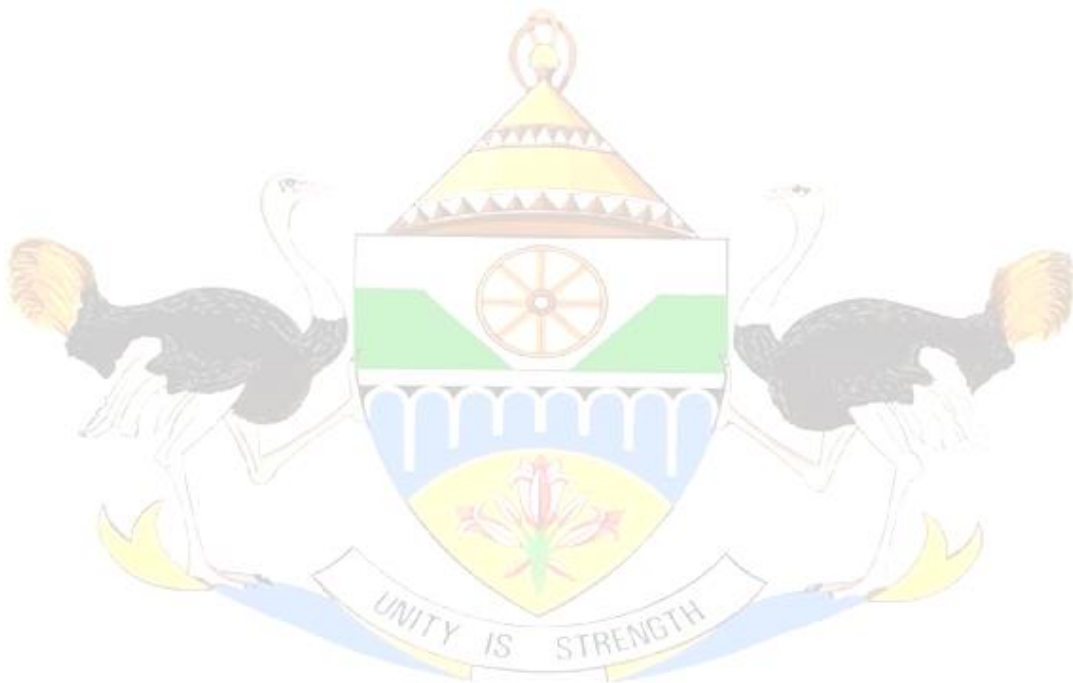
1. ALIGN BUSINESS AND IT DIRECTION

The main aim of this stage is to merge new business strategy with emerging IT Capabilities to help define IT future strategies.

1.1 XHARIEP DISTRICT MMUNICPALITY BUSINESS SRATEGIES

1.1.1 Xhariep District Municipality Vision and Mission Statement

a) **Vision**

"To realize a district municipality that is financially viable with political and administrative sound capacity and be able to provide sustainable, efficient, effective and affordable service delivery in relation to development and governance principle"

b) **Mission**

"Xhariep District aims to significantly improve growth, and reduce unemployment and poverty. We will do this through working with all stakeholders to develop an efficient infrastructure to encourage business to establish and grow, using and adding value to local productions and service, marketing Xhariep nationally and internationally."

c) **Values**

Leadership:
The courage to shape a better future for our communities

Democracy:
Accountability, transparency and freedom of expression

Sound Administration and Financial Systems:
Setting/maintaining administrative and financial apparatus

Inclusiveness:
Consider needs of the affected when formulating policies, programmes and budget

Responsiveness:
Respond timeously to service queries, complaints and inquiries

Quality Service:
Investing in human resource development: "What we do, we do extremely well"

Partnerships:
Strategic partnering with private/public entities

Community Participation:
Regular meeting with the communities (Imbizo's)

Youth Development:
Creation of learnerships and improve recreational facilities

Passion:
Committed in heart, mind and spirit

1.1.2   Strategic Direction of the Institution

Organizations usually define a *Strategic Direction* that can be seen as the organization's *roadmap*. With the strategic direction the organization knows what its objectives are, how will they be accomplished, what resources are required and creates a general scheme of how the organization must work. However a great deal of organizations does not include on their strategic vision two components that are basic for nowadays: *Internet* and *Technologies*.

Internet and Technology components have greatly evolved in the last decades and currently play a major role in any modern organization. Few years ago Internet and Technologies where thought as secondary characters, usually as support areas, but this has been rethink due to changes in the market and business environment.

Strategic direction can be defined as a course of action that ultimately leads to the achievement of the stated goals of a business or organizational strategy. Strategic direction is established during the strategic planning phase of an organization. During the strategic planning process an organization will create a strategic business plan and establish a written vision and mission statement. A strategic business plan differs from a business plan in that the strategic plan focuses on objectives, values, focus areas and performance indicators while a business plan focuses on functions of business that refer back to strategic direction.

Xhariep District Municipality's mandate and its planning processes are linked and aligned to its powers and functions.

Our areas of focus:

Our areas of focus detail our commitment to you. We are doing what it takes every day to ensure we all have the power to live our lives well.

Stakeholder relations:

We will develop relationships with communities and work together for our mutual benefit. We will ensure we consult with residents across the district and other stakeholders who have an interest in the work we are doing.

Workforce excellence:

Safety comes first. We will continue to build a culture where safety is a part of everything we do. Our employees will be part of a positive, engaged workplace that is focused on building a reliable and affordable system for the future.

Customer experience:

We ensure that our communities have a positive experience every time they consult with the municipality.

Process efficiency and cost management:

Our goal is to operate as efficiently as possible. We will continue to evaluate our processes to look for improvements in order to deliver effective, efficient and affordable service.

1.1.3   Envisioned Major Business Transforming Programmes

For the next five (5) years the municipality will undertake the following major programmes in areas within the district:

- o   Promoting Tourism Development
- o   Promoting Local Economic Development
- o   Infrastructure Development
- o   Skills Development and Training

1.1.4   Understanding and Execution of the Business Strategy throughout the Institution

The Constitution of the Republic of South Africa requires the institutions of the state to ensure that they mainstream public participation in all government programmes. The municipality's public participation process envolves three (3) phases, namely,

Planning:

- o   Stakeholder identification & Analysis

Participation:

- o   Establishment of Consultative Structure
- o   Development of Proposal

o   Establishment of the Consultative Structure

Exit:

o   Management Committee in place.

1.1.5   Business Priorities

The Planning and Social Development Unit is the biggest in the institution and is divided into three (3) divisions, namely,

o   IDP Unit which is responsible for the overall planning and includes the Integrated Development Plan of the municipality.
o   LED Unit which is responsible for management of local economic development and promotion of tourism.
o   Environmental Health *Municipal Health* Services is the assessment, correction, control and prevention of factors in the *environment* that can adversely affect human *health*.

The following form part of our major business priorities:

o   LED and Job Creation
o   Social upliftment
o   Municipal Infrastructure and Environment
o   Community Safety
o   Institutional Development

1.2 EMERGING TECHNOLOGIES AND TRENDS

The municipality will use mainly the seminars on IT in government and relevant stakeholders such as (Provincial Treasury, COGTA, and SALGA) to obtain new technology trends that can be adopted by the municipality. These trends must be assessed thoroughly by the IT Unit to ensure that they suite the business environment at Xhariep District Municipality, where there is a need for them to be tailor made to suite the business environment at Xhariep District Municipality.

1.3 IT VISION

The vision of the IT Unit is to:
Ensure that the IT function is aligned to the Business Direction/Strategy
Provide expert advice and support to the municipality pertaining IT aspects
Introduce technologies that will enable the municipality achieve its strategic goal
Introduce technologies that will assist in the smooth running of the day to day business operations of the municipality
Ensure that the municipality receive value on IT investment

1.4 IT IMPLICATIONS

Every IT environment in an institution has its implications on the infrastructure, resources or intellectual property of the institution. It is therefore imperative to leverage on or manage the implications in order to achieve IT goals in support business strategy.

1.4.1 IT Organizational Structure

```
        MUNICIPAL MANGER
              ↑
    DIRECTOR: CORPORATE
          SERVICES
              ↑
         IT MANAGER
              ↑
         IT OFFICER
              ↑
          NETWORK
       ADMINISTRATOR
```
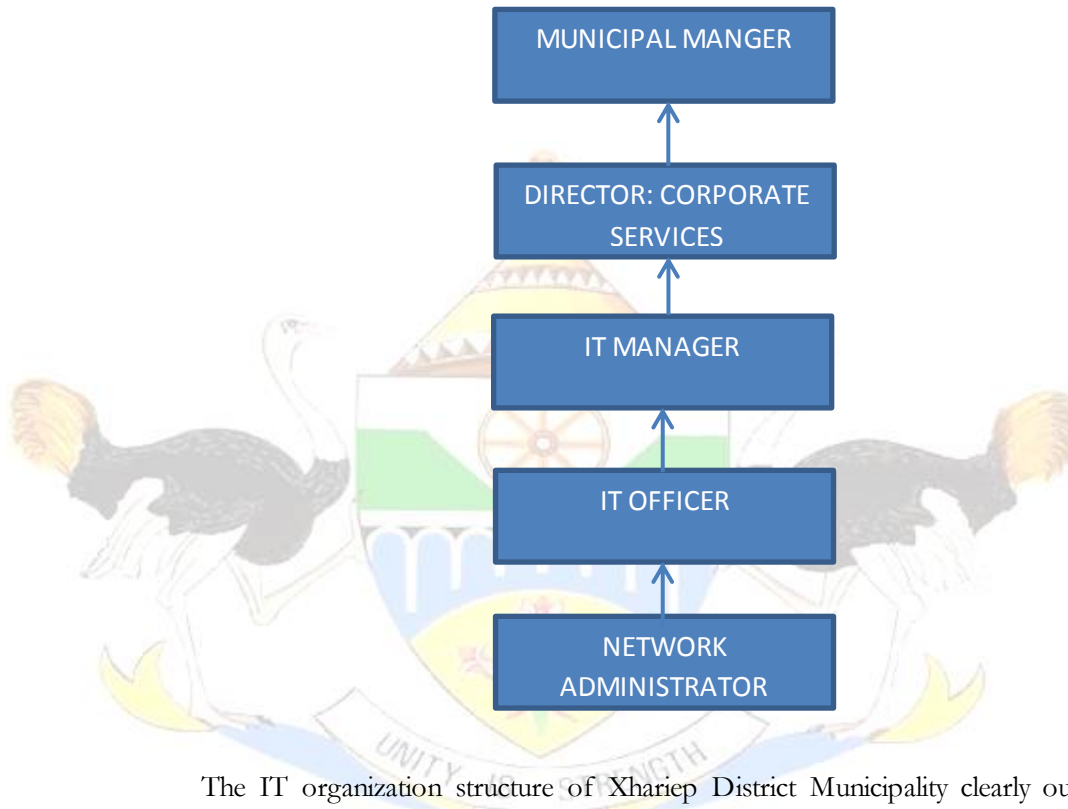
The IT organization structure of Xhariep District Municipality clearly outlines all the positions in the IT Unit to support the municipality in achieving all its strategic goals and day-today operations.

1.4.2 IT Policy

Xhariep District Municipality IT Policy must cover the following areas below. This will assist regulating the IT Environment.

Section 1 – GENERAL INFORMATION COMMUNICTION TECHNOLOGY USAGE POLICIES AND PROCEDURES

The IT Policy and Procedures will set out the principles and standards, which determine acceptable use of computing resources of Xhariep District Municipality. The primary objective the policy document is to balance the proper and efficient business use of the

computing resources against the need for protection of systems, services and information that makes up those resources.

This IT Policy document and procedures will describe basic computer policies and procedures that all Xhariep District Municipality employees, contractors, and users of the institution's computer facilities are required adhere to. This includes councilors, third party contractors, vendors, and others authorized by the municipality management to use Xhariep District Municipality's computer resources.

Section 2 – SOFTWARE LICENSING POLICY

The Xhariep District Municipality's Software Licensing Policy will apply to all individuals that use any Information Resources of the municipality. The main objective of this policy is to ensure licensing compliance and to prevent piracy.

Section 3 – NETWORK ANDINTERNET USE POLICY

This policy will apply to all municipal employees who are supplied with PC's and other IT gadgets as a tool to enable them to perform their functions, full time councilors for the period of their tenure as full-time councilors and individuals working for the associates of Xhariep District Municipality.

The main objective of this policy is to ensure proper and sound management of the network and security systems, to set responsibilities and limitations of the PC users, to foster discipline with regards to Xhariep District Municipality's confidentiality database and to give effect to the general protection of Xhariep District Municipality's interests in respect of use of the electronic communication systems.

Section 4 – E-MAIL POLICY

This policy will apply to all municipal employees who are supplied with an e-mail account to enable them to communicate efficiently and effectively and to perform their functions, full time councilors for the period of their tenure as full-time councilors who are supplied with the e-mail accounts.

The main objective of this policy is to eliminated risk of inadvertent change or distribution of messages through error of negligence, unauthorized use, processing and distribution of messages. Distortion, interruption or unwanted disclosure of messages, unwanted infection with and distribution of viruses or other harmful programs, unauthorized disclosure of confidential proprietary or secret information and copyright infringement.

Section 5 – WESITE USAGE POLICY

The main aim of the Website Usage Policy is to regulate and prohibit, but not limited to,

Any content that encourages conduct that would constitute a criminal offence or give rise to civil liability, or otherwise violate any applicable local, provincial, national, or international law

Any content that constitutes an invasion of privacy

Any content that is an infringement of any intellectual property

Any content that contains software viruses

Any content that constitutes a political statement, commercial solicitation, or spam

Section 6 – IT PROCUREMENT POLICIES AND PROCEDURES

The procurement policy generally applies to acquisition by purchasing, hiring, leasing, rental exchange, and competitive tendering and contracting (outsourcing) arrangement.

The main focus of the policy is on purchasing by Xhariep District.

Section 7 – COMPUTER SECURITY AND USAGE POLICY

The policies and procedures refer to the normal operation of Xhariep District Municipality's computing and network systems and facilities. The purpose of the policy is to ensure legal and responsible use of Xhariep District Municipality's computing systems and resources

Outline responsibilities related to the accessing and usage of computer system at Xhariep District Municipality

To institute policies and procedures for physical safe guarding of computer systems and their components and to provide methods for monitoring and enforcing the policies and procedures

The Computer security and usage policy applies to all computer systems owned, leased or maintained by XDM

All the authorized users of the Xhariep District Municipality's computer systems

Section 8 – INCIDENT HANDLING POLICY

The main objective of the Incident Handling policy is to,

Allow the IT Unit to monitor all computer faults within the department so that any matter arising can be monitored

To allow the IT Department to monitor all request to vendors

To monitor cost to establish it is still economically viable to repair certain equipment, or to allow management to make decisions to replace equipment that is no longer economically viable to be repaired or outdated and obsolete

Section 9 – CHANGE MANAGEMENT POLICY

The Xhariep Change Management Policy applies to all individuals that install, operate or maintain Information Resources in the municipality

The purpose of the policy is to manage changes in a rational and and predictable manner so that staff and stakeholders can plan accordingly.

The policy applies to,

Any implementation of new functionality

Any interruption of service

Any repair of existing functionality

Any removal of existing functionality

Section 10 - PASSWORD POLICY

The Xhariep District Municipality Password Policy applies all individuals using computer equipment of the municipality to perform their functions.

The main objective of the policy is,

To ensure user protection and the protection of the municipality's resources

To outline all the dos and don'ts when creating a password

Section 11 – COMPUTER WORKSTATION USAGE POLICY

The Xhariep District Municipality's Computer Workstation Usage Policy, applies to all employees of the Xhariep District Municipality using computer equipment. The policy also covers all the councilor and all the third party people who are using the municipality's computer equipment.

Section 12 –INFORMATION PROTECTION POLICY

The Xhariep District Municipality's Information Protection Policy applies to,

Any data created, stored, or archived on any equipment housed within Xhariep District Municipality premises or owned by and used by the municipality and by the employees of the municipality and any other authorized user it the Xhariep District Municipality's property.

The authorized possession and/or usage of any equipment or software that would potentially be used to overwrite or alter any of the Xhariep District Municipality's data, no matter where or how stored

The purpose of this policy is to identify basic controls that must be active on all types of computer workstations and media to protect Xhariep District Municipality's information

Section 13 – INTERNAL NETWORK POLICY

The purpose of the Xhariep District Municipality's Internal Network Policy is to ensure exclusive use of internal network by uthorized Xhariep District Municipality employees.

The policy will outline the dos and don'ts on the municipal internal network

Section 14 EXTERNAL NETWORK USE POLICY

The purpose of the Xhariep District Municipality's External Network Policy is to control the external public networks and the internet that can connect to Xhariep District Municipality's internal network and pose a threat to the network.

Section 15 – REQUEST FOR SERVICE POLICY

The purpose of the Xhariep District Municipality's Request for Service Policy is to regulate the whole process of requesting for service by IT Unit from other internal departments of external third party.

ICTPP 16 – NOTEBOOK (LAPTOP) COMPUTERS AND OTHER HANDHELD (e.g. PDA) DEVICES POLICY

The Xhariep District Municipality's Notebook, Computers and Other handheld Device Policy apply to all municipal employees who are using such computer equipment.

The purpose of the policy is to protect the Xhariep District Municipality's above mentioned hardware and software owned by the municipality, but in the hands of the municipal employees.

ICTPP 17 - STANDARDS POLICY

The purpose of the Xhariep District Municipality's Standard Policy is to ensure that standard set out by Xhariep District Municipality on municipal operations and processes are adhered to by the municipal and third party organizations.

ICTPP 18 – INSURANCE POLICY

The purpose of the Xhariep District Municipality's Insurance Policy is to give guidance in the process of claims for stolen, damaged or lost municipal computer equipment in the municipality premises or in the hand of municipal employees.

ICTPP 19 - EMPLOYEE SEPARETION POLICY

The Xhariep District Municipality's Employee Separation Policy refers to the separation the employees that have terminated their contract with the municipality.

ICTPP 20 – SOFTWARE USAGE POLICY

The purpose of the Xhariep District Municipality's Software Usage Policy is to address software management and usage requirement for all municipal employees and contractors

ICTPP 21 NETWORK COPIERS POLICY

The purpose of the Xhariep District Municipality Network Copiers Policy is to ensure that Network Copiers connected to the municipal network are connected in a standard, manageable and reliable way

1.4.3   IT Business Processes

Xhariep District Municipality IT Business Process Document is a document that must outline all business process for the Xhariep District Municipality IT Unit, in supporting Xhariep District Municipality's business strategy and to ensure smooth day to day operations. The IT Business Process Document must outline all the controls to be adhered to when running day to day IT operations.

The document will cover the following areas,

a) User Access and Credentials Business Processes

This process will help the IT Unit to better manage the granting of access and credentials to the users of the IT systems and also to ensure that the user credentials are commensurable to their responsibilities. The business process will cover the following areas.

- o Username and Password
- o Password Reset
- o User Termination
- o User Privileges Assessment
- o User Access Reviews

b) Network Equipment Business Processes

This process will help the IT Unit to better manage the computer equipment that is connected via the Xhariep District Municipality network. This process will cover Personal Computers, Laptops, I-Pads, and Printers etc.

c) **IT Service Providers Procurement Business Process**

This process will define the role of the IT Unit in the supply chain procurement process of the IT service providers. It is important that the IT Unit gets involved in the process of sourcing service providers for IT Project and also be involved in the process of formulate the Service Level Agreements.

d) **Service Level Agreements Monitoring Business Process**

This process will assist the IT Unit better manage the SLA with Xhariep District Municipality's service providers and contractors.

e) **Website Business Process**

This process will assist the IT Unit to better manage the process of maintaining the municipality's website and to ensure that all the relevant documents are uploaded as per requirement by the Local Government: MFMA section 75 and 21A of the Municipal Systems Act. Also to ensure that tenders, job advertisements etc. reach the public knowledge as prompt as possible.

f) **Change Management Business Processes**

This process will assist the IT Unit to better manage change on the municipality systems.

g) **Quality Assurance at the IT Helpdesk**

The IT Helpdesk aims to deliver a consistent quality of service for each request/call it receives per day. To achieve this, we need user interaction with the IT Department. Users are also asked to comment on their perception of the service.

2. FORMULATING IT STRATEGY

2.1. IT ASSESSMENT

The IT Assessment is done to understand the municipality's current IT Capabilities and determine how effective and efficient are the IT assets and projects to can support the Xhariep District Municipality's business Strategy. This stage will show how Xhariep District Municipality will define IT Benchmark Approach, collects and analyze necessary data and determine how current IT Initiatives support the business strategy. A detailed analysis of the current IT Capabilities was conducted and forms part of the Master Systems Plan, and this information will be used to make decisions regarding short-term and long-term efforts based on the needs reflected by the analysis.

2.1.1. IT Assessment Approach

This is a detailed approach which will show the level of detail of the measurement of IT activities and to accurately define the scope of measurement. This will outline the areas that will be assessed and the level of detail the assessment will be)
The following areas will be measured:

a) IT Infrastructure (Hardware)

It is important that the IT Infrastructure is assessed periodically to ensure that it still serves the needs of the municipality. This will assist the IT Unit to identify aging hardware and make informed decisions promptly where there is a need to change or upgrade hardware equipment.
Assessment must also be done to check that equipment is performing to the expected standard so that any under-performance can be picked early and remedial measure be take.
Infrastructure must also be assessed to ensure that the infrastructure is stable enough to can handle current and future system that may form part of the municipal future plans

b) Information Systems (Software and Applications)

There are various systems that are used in the municipality and those that form part of future projects. Current systems must be periodically assessed to ensure relevance to the functions of the municipality. Where upgrades are due or replacements are needed, they must be implemented.
The information systems must give technological support, primarily to the core functions of the municipality as stipulated in the institution's IDP, the essential functions of Xhariep District Municipality and lastly the day to day operations.

It is important that information systems that are deployed by Xhariep District Municipality serve the above mentioned aspects, so that also there are no systems that are redundant an the municipality is not realizing the return on investment.

c) IT Environment

It is important to assess the environment, in which IT Infrastructure is safe enough to protect the investment, that it can withstand unexpected disasters
Assess that:

- That the server room is in an upper floor in case there is flooding in the area
- That there is proper ventilation for the cooling of big machinery that is running the systems at Xhariep District Municipality
- That there is fully functional fire extinguishing essential in an event of fire

The IT environment must allow backup and recovery plan
The IT environment must be conducive of IT growth and expansion

d) **IT Personnel and Skills**

Xhariep District Municipality must ensure that a proper assessment of personnel needs is done, to ensure that the workload in the IT Unit is not unbearable and does not affect negatively on the productivity of the IT Unit. The IT Unit must attract relevant personnel for the functions of the department, people who will add value to the institution.
Coupled with the above an assessment of skills must be conducted to ensure that necessary skills are acquired by the IT personnel, so that the productivity increases. Where skills development is needed it must be addressed.

Currently the IT has the following positions:

IT Manager (Not Filled)
IT Officer (Filled)
Network Administrator (Filled)

2.1.2.   Assess Current IT Capabilities

This stage will look at the current IT Capabilities in Xhariep District Municipality, in terms of the infrastructure, information systems and Gorvenance

a) **IT Infrastructure (Hardware)**

The municipality has one server room that is housing the following:

- Active Directory Server
- FileServer Server
- Telephone System Infrastructure
- CCTV Camera System Infrastructure
- Biometric Scanner System Infrastructure
- Patch Panels
- Main Router

The server room is share with another institution

There are 3 wireless routers one connecting the main building, one connecting the site hall and the last one connecting the Planning and Development building

All workstations and network printers are supposed to be connected to Xhariep District Municipality network.

b) **Information Systems (Software)**

The municipality has the following Information Systems that are currently used.

- Pastel
- VIP Sage
- Document Management System (Incomplete)

c) **IT Governance**

Xhariep has the following measures to ensure good governance in the IT Unit.

- IT Policy
- Disaster and Recovery Plan
- Master Systems Plan Strategy (Document endorsed by the Section 80 Committee to be approved by the council)
- Business Process Document (Draft)

2.1.3.   Assess IT Framework Elements

This phase refers to the assessment or evaluation of the organization's current processes and practices to ensure that these processes are adding value to the municipality and are ensuring that proper controls are in place.

a) **Assess Solution Development Capabilities**

This section refers to assessing and evaluating Xhariep District Municipality's current solution development and management capabilities. This includes an assessment of the municipality's ability to plan, design and, implement, support and manages ongoing IT application solution at Xhariep District Municipality.

b) **IT Infrastructure (Hardware)**

It is important that Xhariep District Municipality has proper IT infrastructure to support implementation of IT application solutions. The municipality is in a process of revamping IT Infrastructure. This exercise was done with a clear understating of future plans regarding IT Application Solution. When the IT infrastructure revamp is completed, it will be able to accommodate future project regarding IT application solution

c) **IT Human Resources**

It is important that the municipality must have the necessary structures to carry out activities defined above. It is equally important that there are adequately capacitated personnel to implement, support and manage IT application solutions at Xhariep District Municipality.

Xhariep District Municipality must employ skills that are relevant to the current and future needs of the municipality and where needed and necessary up skilling must take place to capacitate IT Personnel.

d) **Assess Service Provision Capabilities**

This section refers to the assessment of Xhariep District Municipality's ability to service provision to the users both from internal or external suppliers.

It is important that the internal capacity of the municipality is able to deliver IT solutions to the municipality. In Xhariep District Municipality, because of the size and complexity of the municipality, the municipality will use external service providers for major IT developments and the in house IT Personnel will do mainly administration, maintenance and support on the IT Infrastructure and Information Systems.

It is also important that Xhariep District Municipality appoints credible and capable service providers in cases where external service provider is acquired. The correct process and appropriate criterion as set out by the Supply Chain

Management must be followed to ensure that the municipality at the end of the day receives the best service or product from the external service providers.

e) Assess Strategy, Architecture and Planning Capabilities

This section refers to the assessment of Xhariep District Municipality's capability to plan, design, implement, support, and manages shared IT services (communication, desktop environment, user support etc.)

It is important that the municipality has a sound IT strategy and IT architecture that will inform better planning capability in Xhariep District Municipality. For IT projects it is important the municipality must introduce Project Management Office (PMO). The tool will come instrumental in the documentation of various phases of each project by department by unit.

With the full implementation of the Document Management System (DMS) in Xhariep District Municipality, which will be deployed on the Shared Service tool, the dream of a better shared IT Services can be achieved. For all operations related activities e.g. calls or request for IT services, whether it is, troubleshooting, or enhancements on current system or queries Xhariep District Municipality must introduce a call or request log system, where users of the system can log their request to the IT help desk. The system must allow prioritization of the requests amongst other functionality so that there is better management of calls or request. The system must be able to produce reporting for management. A help desk guide was developed with the IT Business Process Document to assist the municipality to better manage operations and instill controls in the municipality. For all IT projects Xhariep District Municipality will adopt full SDLC process (Software Development Life Cycle) using Agile Methodology.

f) Assess IT Support Function Capability

This section refers to the assessment of Xhariep District Municipality's current resource management capability. This includes assessing the institution's ability to manage employees, vendors, internal knowledge, and risk associated with IT projects.

Xhariep District Municipality must introduce systems that will assist the Human Resource Management Unit to better manage employee data in the municipality. There various systems that the municipality can choose from. Currently employee data is store manually in files and this can be a problem, where files are missing as there is no tight security around the storage place. The system must also accommodate the process of leave application. Currently the process is manual and tedious.

The municipality must introduce a system that will help manage the service providers or vendors that are in the Xhariep District Municipality's database. Currently the database is captured manually.

Xhariep District Municipality is in the process of implementing a Document Management System, this tool will be used to preserve important internal data and will also host the Knowledge Exchange functionality to allow various people and department to share knowledge and information within the municipality. The DMS will run on Shared Point Services which will operate like a Portal/Intranet of the municipality.

Xhariep District Municipality has a Risk Management Unit that works closely with the IT Unit in relations to the risks associated with the IT projects and other IT aspects. For every IT project the risk management committee will sit to analyze risks associated with undertaking that particular project. A contingency must be devised in advance to mitigate risks that may be encountered while executing the activities of the project.

The municipality must look into introducing Project Management Tool to assist the municipality to better plan for all projects IT related and Non-IT related. This tool amongst other functionalities will accommodated monitoring of project progress to ensure that project are completed on time, and if projects are falling out time it can be picked early and be remedied. It will also assist with scope creep which is the cause of projects completing late. The system must also help manage the budget and resources associated with the project.

Project Management Office is another tool that Xhariep District Municipality must introduce. The tool will amongst other things assist the municipality to better manage project documentation. This will also be used to store various project template and template for other IT and Non-IT related aspects. These templates will help standardize project documentation in the municipality.

g) **Assessing IT Business Processes**

This element refers to assessing the current IT Business Processes of Xhariep District Municipality. The institution has an IT Business Process Document that outlines IT business processes that will assist with the implementation of the controls in the Xhariep District Municipality.

There was no formal or informal documentation of the business processes in the municipality that assist the municipality implement required controls. This document will be presented to the council for approval and adoption after all necessary procedure has been followed

3. IT STRATEGY

In formulating the IT Strategy it is important that the IDP of Xhariep District Municipality, which outlines the core functions and capabilities of the municipality, must be studied thoroughly to understand the current state of the municipality and the future anticipated developments. This assessment will inform the technological needs of the municipality and thus assist the IT Unit develop a strategy that is accurate and is responding directly to the business strategy/need of the municipality.

From this the IT Unit will be able to do an enterprise analysis of the municipality, to identify technology gabs or opportunities and develop IT Capabilities that will support the business strategy. When performing this exercise is important to look at,

- o Infrastructure needs
- o Systems and Applications needs
- o Personnel needs
- o Skills Gab amongst other things

All of the above has been researched thoroughly in the Master Systems Plan Strategy of the municipality. The document outlines the current gabs in the Xhariep District Municipality IT and gives a clear strategy to address those gabs or opportunities to improve the state of IT in the institution.

The Xhariep District Municipality Masters Systems Plan Strategy was approved by the Section 80 committee and a recommendation was put forward by the committee to council that in the next council the document be tabled for approval.

Once the document is approved by the council then it will be adopted as an IT Strategy to supporting the business (Xhariep District Municipality).

Furthermore the IT Strategy is also covered in the Disaster Recovery Plan of Xhariep District Municipality.

Below is the illustration of what the both the strategies cover in their content.

3.1. MASTER SYSTEMS PLAN STRATEGY

The Xhariep District Municipality Master Systems Plan Strategy's main purpose it transform IT Function into a business supporting structure that is aligned to the municipality's IDP and service delivery commitments. Furthermore it is to improve interaction with business and industry, and to create citizen empowerment through access to information and bring about a more effective government management.

The document also looks at the current state of Xhariep District Municipality's IT Unit to identify gab that disables the IT Unit from supporting the Business Strategies of the municipality.

The Xhariep District Municipality's Master Systems Plan Strategy covers the following areas

Chapter 1: MSP Development Methodology

Chapter 2: Organizational Strategy, which details,

o   the vision, mission and values of Xhariep District Municipality
o   Goals of Local Government
o   Vision, Mission and Values Statements of COGTA
o   Strategic objectives for Xhariep District Municipality
o   IT Swot Analysis
o   Assumptions and critical success factors
o   Municipal Challenges

Chapter 3: Enterprise Model

o   Xhariep District Municipality's Key Performance Areas and Strategies
o   Municipal Powers and Functions

Chapter 4: IT Architecture

o   Exiting Information Technology
o   Issues noted during interviews
o   Server Infrastructure
o   Systems Overview
o   Systems Status
o   Email and Internal Services
o   New Information Technology (recommendations)

Chapter 5: IT Alignment to Business

o   Objectives of Municipalities as set out in the Constitution
o   National Key Performance Areas in Performance Management Regulations
o   Service Delivery and Infrastructure
o   Good Governance
o   Financial viability and management
o   Public Participation
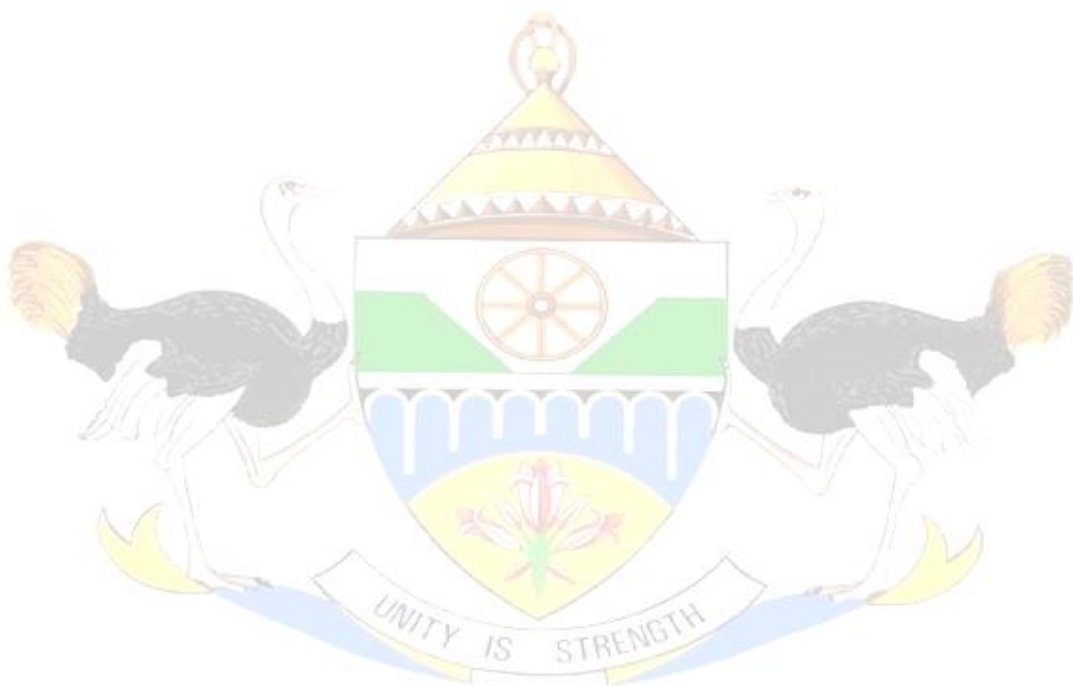
Chapter 6: IT Governance

o   Definition of IT Governance
o   IT Legislative Mandates

Chapter 7: IT Operational Planning and Management

o   IT Operational Plan
o   Policies and Procedures
o   Change Management in Development Projects
o   Process Overview

Chapter 8: IT Strategic Direction

Chapter 9: MSP Projects

4. DEFINE AND APPROVE IT INITIATIVES

4.1. ISSUES AND OPPORTUNITIES FOR IMMEDIATE NEED AND FUTURE VISION

Below are some of the initiatives, in addition to the initiatives outlined in Xhariep District Municipality MSP Strategy that the municipality must to consider in ensuring that IT supports the business needs. These initiatives will also address needs as set out in the country's constitution on objectives of the municipalities. It is important that the IT Infrastructure, IT Environment and Information Systems support the core functions of the municipality. IT Initiatives must be aligned to the business strategy as the IT Function is there to support business strategy.

4.1.1. Objectives of the Municipalities as set out in the Constitution

- o To provide a democratic and accountable government for local communities
- o To ensure the provision of services to the communities in a suitable manner
- o To promote social and economic development
- o To promote a safe and healthy environment
- o To encourage the involvement of communities on matters of local government

It is therefore important that IT Initiatives for the Xhariep District Municipality are aligned to these constitutional objectives and also Xhariep District Municipality's objectives as a municipality as set out in the IDP and to support the implementation and realization of those objectives.

During the assessment of the various aspects of Xhariep District Municipality, the following Opportunities or Needs were identified. These opportunities are outlined in the IT Capability Framework, but here are categorized into short term and long term visions/goals of the IT Unit in supporting the Business Strategy of the municipality.

4.1.2. IT Short Term Goals

- o Establish a stable IT Environment that is conducive for troubleshooting and end user supporting
- o Infrastructure can accommodate future projects such as new Information Systems to support municipal business
- o Ensure Network Infrastructure is acceptable quality and configuration is done properly to ensure that down time is minimal
- o Backup facility is in place and is of acceptable standard, and backups are done on a regular bases
- o Ensure that Internet connectivity is always at an acceptable level
- o Ensure municipal website is always functional and has relevant information

- o The security of the systems, data and infrastructure is at an acceptable standard and proper reporting is produced in this regard
- o Ensure that issue of IT Governance, such Policies, Strategies, Business Processes, IT Planning are in place, adopted and are being executed
- o Ensure that issues of administration on financial systems particularly and other system in Xhariep District Municipality are clearly defined
- o Ensure stability in all currently systems in the municipality
- o Establishment of the IT Steering committee
- o Filling of Vacant Positions within the IT Department
- o Capacitating IT personnel
- o Complete the Document Management System
- o Clarify the issue of Volume Licensing

4.1.3. IT Long Term Goals

- o Thorough analysis of the IDP to establish what systems or technologies that can be introduced to assist the municipality achieve its strategic goal
- o Thorough Analysis of the Assets Management Process to establish what systems can be introduced to assist the municipality better manage municipal assets.
- o Introduce a proper HR System that will assist with Person File capturing and storage, leave management, skills acquisition, training and development, performance management etc.
- o Implementation of the Project Management Office on the DMS
- o Introduction of Data Warehousing Facility for centralization and proper storage of municipal data
- o Business Intelligence tool for data mining and business technical reporting and decision making processes.
- o Introduction of cutting edge technologies to advance the operations and decision making process

5. IT PLANNING

In the IT planning stage of the Xhariep District Municipality IT Governance Framework, the IT Strategies and Strategic programmes are described at the next level of detail. This stage also includes prioritization of approves and planned projects, defining risk mitigation approaches, and defining programmes management structures.

5.1. IT PROJECT IDENTIFICATION

Based on the outcomes of the enterprise analysis of Xhariep District Municipality all Infrastructure, Information Systems and Governance or Process needs will surface. These needs will inform the projects list that must be compiled and presented to the IT Steering Committee by the IT Unit for its buy in. Once the IT Steering Committee has approved the Project List the next phase can take place. This list will consist of Short Term and Long Term projects that Xhariep District Municipality intends to undertake.

5.2. IT PROJECT PRIORITIZATION

The Xhariep District Municipality IT Steering Committee must sit and review all proposed projects in the project list. Based on a defined criteria and thorough consideration the IT Steering committee must prioritize the projects on the list and produce a list of priority projects with recommendations. This list will assist the IT Unit in select projects to undertake first base on the prioritized project list. This list must be presented to the management with the IT Steering Committee recommendations. The Project Priority list will be the input of the IT Program of Action Plan.

5.3. IT PROGRAM OF ACTION PLAN

This section refers to the program that the IT Unit must establish to achieve its short and long term projects/goals.

The program of action must be done for a financial year as there are budget constraints that need to be taken into consideration when planning a program. The IT Unit must visit their prioritized Project List and select projects to undertake for that particular financial year.

The outputs of the program of action must be the inputs of the plan of action.

For each project that is undertaken it is important that there is a proper project plan and this project plan must amongst other things outline,

- o   Identify Project Stakeholders
- o   Define roles and responsibilities in the project
- o   Formulate a communications plan

- o Define the Scope of the Project
- o Source the Budget for the Project
- o Determine Time Frame to deliver the Project
- o Develop a plan to Analysis and solicit Project Requirements
- o Conduct a comprehensive Cost and Benefits Analysis in undertaking the project
- o Confirm Resource Availability to support the Project
- o Conduct Proper Risk Assessment must and a contingency plan must be produce before the project is undertaken
- o Develop an Implementation and Post Implementation plans must also be produced to ensure smooth transition of the users and environment takes place
- o Develop a system, functional and unit test plan
- o It is also important that Post Implementation Support plan is also produced to ensure system and end user support does take place after the project is completed
- o Develop a comprehensive Training Plan and Skill Transfer

A complete project plan must be submitted to the IT Steering Committee for approval. Once the project plan is approved the IT Unit can start working on the project. The IT Team must report on the progress of the project to the IT Steering Committee periodically, as defined by both parties.

6. SUPPORTING PROCESSES

There are two supporting processes (Implementation and Measurement) within the IT Governance lifecycle, and these are not part of the core of IT Governance stages.

6.1. IT PROJECT IMPLEMENTATION

The IT Project Implementation process is a supporting process to the IT Governance Stages. This process executes the IT Plan and allows for project tracking and variations as part of the normal project methodology.

6.1.1. Project Initiation

This is a process of kick starting an IT Project. The Project Initiation entails all the process and activities that Xhariep District Municipality must follow when embarking on a project.

a) Project Charter

What is a Project Charter?

A document issued by the project initiator or sponsor that formally authorizes the existence of a project, and provides the project manager with the authority to apply organizational resources to project activities.

A project charter (or project definition) is a generally a (short) document that outlines key aspects of the project, such as its rationale, goals, deliverables, key dates, team structure, budget etc. It has a number of potential purposes:

- To initiate and authorize the project;
- To help "sell" the project to relevant internal and external stakeholders;
- To provide a clear direction and focus for the project team throughout the life of the project.
- A statement of the project's scope, objectives and participants, serving as a formal agreement between the project's stakeholders and the project team.

What Does a Project Charter Look Like?

A project charter will contain some, or all, of the following elements:

- Project name
- Project sponsor
- Rationale for project (e.g. the problem the project is solving, the expected benefits etc)
- Objectives / goals and measures of success

- Deliverables
- Summary schedule: start / end date, key milestones, perhaps a timeline
- Budget: costs, resources
- Team: project leader, team members (perhaps also listing responsibilities)
- Constraints / assumptions (e.g. may include what is in / out of scope)
- Risks
- Approval requirements

b) Define Scope of the Project

In this activity the project team must define the scope of the project and the scope of the product. This process help minimize scope creep.

Project Scope:

The work that needs to be accomplished to deliver a product, service, or result with the specified features and functions

Product Scope or Requirements Analysis:

The features and functions that characterize a product, service, or result

The project scope is more work oriented and the product scope is more product oriented

All the outputs of the project scope will be inputs of the Project Plan and all the outputs of the product scope or requirements analysis will be the inputs of the Design Phase of the project

c) Project Budgeting

The project manager needs to ensure that the project has a set budget before the project starts. The budget must be sufficient to can sustain the entire project needs. Budget planning must be completed to ensure any financial implications are catered for. It is important that the Project Manager manages the scope of the project well to minimize scope creep which will impact negatively on the Project Budget

d) Define Project Methodology

The Project Manager must define the project methodology to employ in his/her approach to delivering the project. These are tools and techniques that the project manager will use to manage the processes and activities of the project.

e) Define Project Communications Plan

It is important to define a communications plan that all the stakeholders will agree upon. This communication plan will entail amongst other things, the communications method, frequency of communication etc.

6.1.2. Project Design

Once the project scope and project requirement are defined, analyzed and documented the project move to the next phase which is project design phase.

The purpose of the design phase of an IT project life cycle is to plan out a system that meets the requirements defined in the analysis phase. In the design phase, the project team defines the means of implementing the project solution—how the product will be created. To do this, the project team uses the inputs and tools to conduct the key activities, create the outputs, and meet the milestones for this phase.

The purpose of the design phase is to provide the project team with a means for assessing the quality of the solution before it has been implemented, when changes are still easy to make and are less costly. This phase includes the following elements.

- The inputs required for this phase are the corporate standards, business process prototype, and requirements analysis.
- Only standardized tools found in all offices, such as word processing software, spreadsheets, and presentation software, are used in the design phase.
- The key activities for the design phase are to review the end user interface design, create the technical design, and perform the quality verification and validation.
- The single output for the design phase is the design document.
- The milestones for the design phase are the architecture assessment deliverable, design sign-off, and lifecycle assessment complete deliverable.

The key activities that must be conducted during the design phase are listed below.

a) Review the End User Interface Design

Design appearance, layout, and interaction techniques as seen by the end users. Test the user interface to ensure that it satisfies the requirements. This evaluation is important because the developer will not be able to properly test the completed product during the testing phase if the design doesn't meet these requirements.

The PM evaluates the design to ensure that it meets the users' needs and the corporate standards. The PM then meets with the designer and explains what's wrong and what's missing from the proposed design.
If the PM is not satisfied with the design, the designer applies the necessary corrections, and the PM reviews it again.
.

User needs

o Does the design include each of the user requirements?

o Are each of the user requirements correctly incorporated into the design?

Corporate standards

> o   Does the design include all the standards that specify products or technologies that the development team will use? Are the standards properly implemented in the design?

b) Create the Technical Design.

The designer and technical architect conduct the technical design activity to decide how they will implement the project design. By using the requirements specifications input as a guide, they create a document that includes the sections listed below. The technical design is then given to the PM to serve as the blueprint for the project.

c) Perform the Quality Verification and Validation.

During quality verification and validation, end users and technical personnel verify and validate that the proposed design meets the user and quality requirements. Upon completion of the review, an approval form is given to the project manager, indicating approval of the completed system design.
This sign-off then becomes one of the milestones for the design phase.

Remember, it's easier and less costly to make changes in the design phase, before you implement the actual solution for the project. Take your time and design it right

6.1.3.   Project Development

The primary goal during the Developing Phase is to build the solution components code as well as documentation. Some development work may, however, continue into the Stabilizing Phase in response to testing.

The Developing Phase involves more than code development and software developers. The infrastructure is also developed during this phase and all roles are active in building and testing deliverables. The team continues to identify all risks throughout the phase and address new risks as they emerge.

6.1.4.   Project Test

a)   Developing the Solution Component

The team develops the solution using the sore components and extending them to the specific needs of the solution. The team also develops and conducts unit functional tests to ensure that individual feature of components perform according to specification

b)   Developing the Testing Tools and Tests

The team develops a testing infrastructure and populates it with test and cases that help ensure the entire solution performs according to specification. This solution test suites typically incorporates, as a subset, the individual feature tests used by developers in building the solution components.

6.1.5. Project Implementation

Having developed the products required to fulfill the requirements of the project, the products need to be put to use. This is usually treated as a distinct project phase, covering such activities as:

- Measuring performance indicators immediately prior to introduction of new project products (to help assess the specific impact of the project)
- Installation of equipment and software, as needed
- Training for those who will use the new products in their work
- Publicity or communication to those who will be affected by the project
- Transferring data from obsolete or legacy systems to new systems
- Ceasing use of previous products monitoring and responding to difficulties during implementation

6.2.   IT MEASUREMENT PROCESS

The IT Measurement process defines the metrics for all IT Governance stages. The metrics supports the execution of the IT Plan, also to ensure IT Strategy is achieved.

6.2.1. Measurement Approach

Xhariep District Municipality will measure the successful implementation of each IT Governance Stage by producing a list of all deliverable from each stage. These deliverables will be accompanied by a due dates and all the important detail for implementation. These deliverable can vary from documents for good governance, projects etc. The IT Steering committee must ensure that these are prioritized and due dates are meet. The deliverables list must be updated on a regular basis.

6.2.2. Reporting

The IT Steering Committee, must report on a regular basis to the management on the project developments, this includes the IT Governance Stages Deliverables List. Where necessary decisions will be taken according to the define decision making matrix as stipulated later I this document.
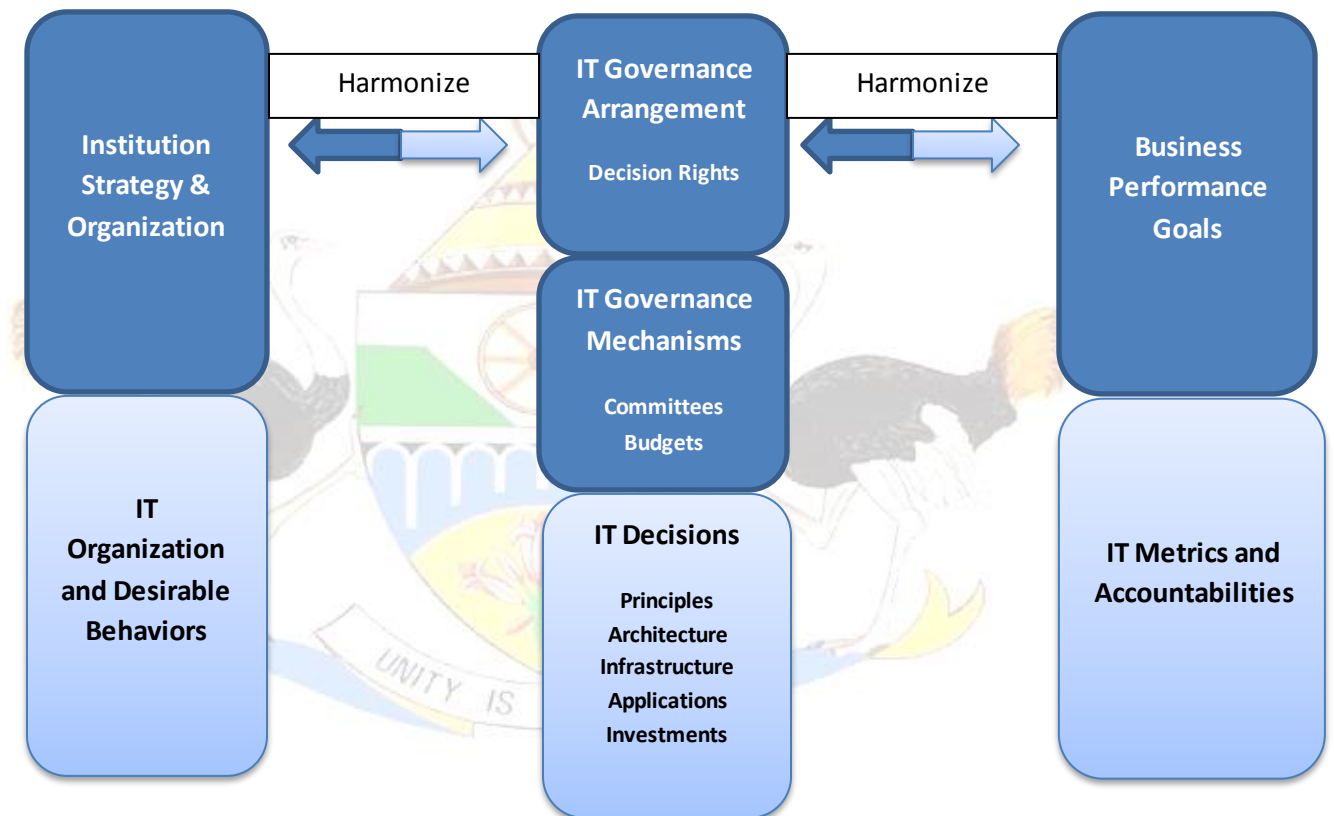
7.   DECISION MAKING MATRIX

They state that IT governance is about who makes decisions while management is about making and implementing the decisions. They assert that effective IT governance will answer three questions:

What decisions must be made?

Who should make these decisions?

How are they made and monitored?

The above framework diagram illustrates the requirement for harmonization of institutional strategy and organization with IT governance arrangements and the institutional performance goals.

The institutional strategy, IT governance arrangements and performance goals are enacted through the IT organization and desirable behaviors, IT governance mechanisms and performance metrics, respectively.

The adopted IT governance methodology suggest that there are five interrelated IT decisions that should be considered together with the decision making structure and the following diagrams have been adapted from their work to illustrate a governance framework:

Key IT Governance Decisions		
1 IT principles High-level statements about how IT is to be used in the institution		
2 IT architecture decisions Organizing logic for data, applications, and infrastructure These are captured in a set of policies, relationships and technical definitions They ensure the desired institution and technical standards and levels of integration are achieved	**3 IT infrastructure decisions** Centrally coordinated, shared IT services that provide the foundation of the enterprise's IT capability **4 Institutional applications needs** Specifying the institutional need for purchased or internally developed IT applications	**5 IT investment and prioritization decisions** Decisions about how much and where to invest in IT, including project approvals and justification techniques

The institution is required to decide the governance arrangements for each key decision area. The harmonizing of each decision making group will significantly affects the decisions and outcomes and is therefore able to effect strategy alignment. The groups or governance archetypes have been categorized as:

CODE	Name	Description
IT001	Institutional monarchy	Municipal Manager and Heads of Department
IT002	IT monarchy	IT Steering Committee
IT003	User Forum	User Forum representing users from each Department
IT004	System Owners	System owners and vendors (hardware and software) of technologies used in the Municipality.
IT005	Super Users	Isolated individual or small decision group

These archetypes are used below to illustrate an example governance structure:

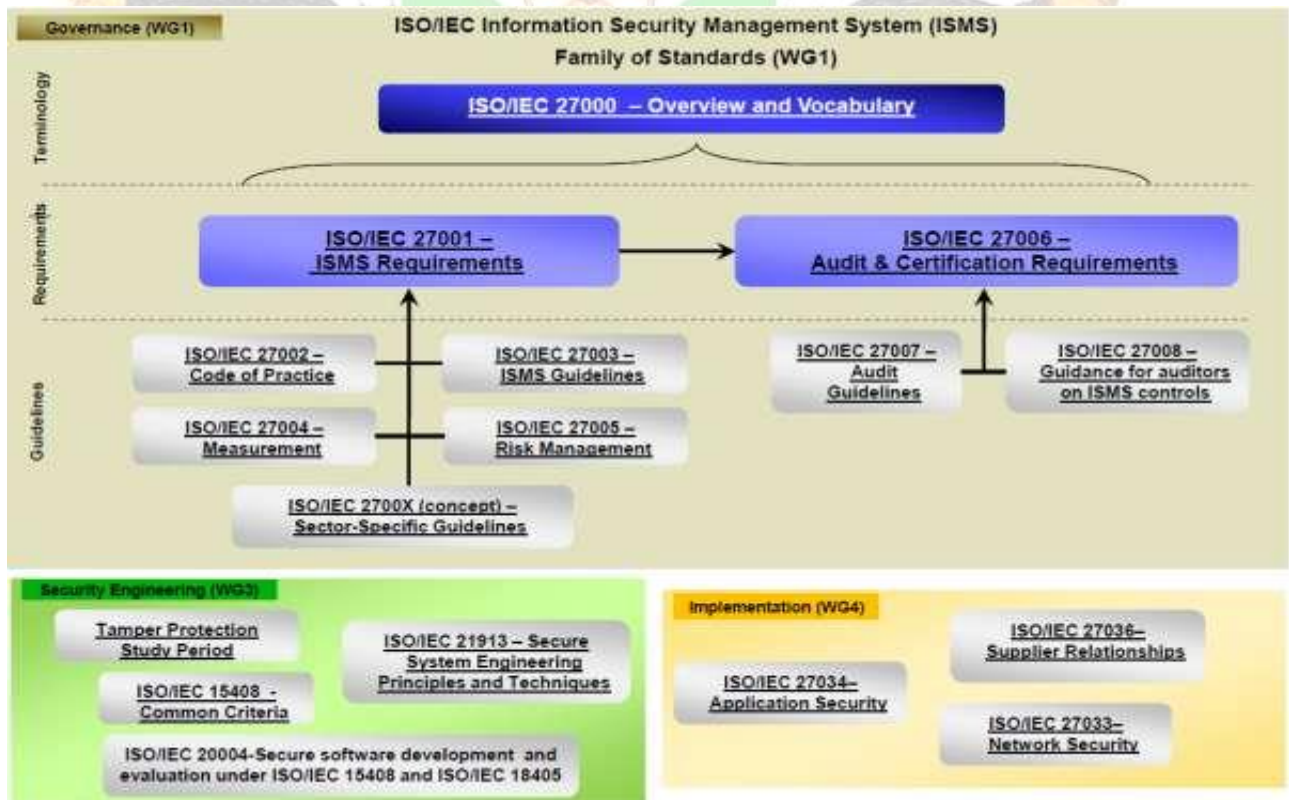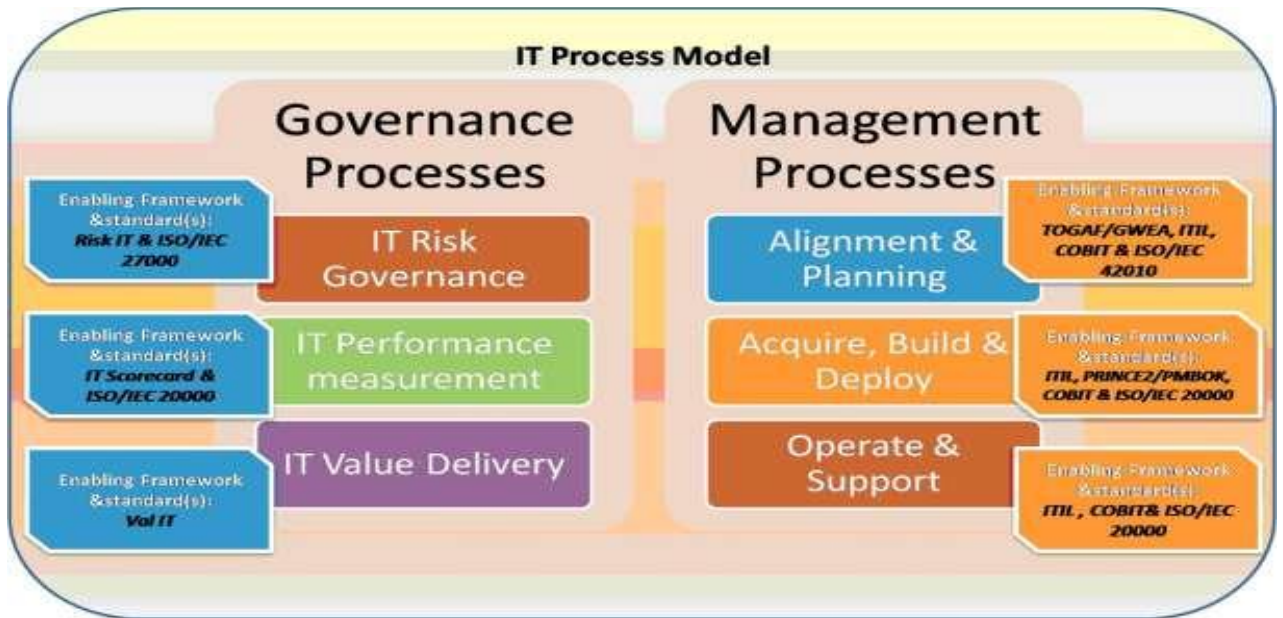| IT GOVERNANCE DECISION STRUCTURE									
IT Principles		IT Architecture		IT Infrastructure Strategies		Institutional Application Needs		IT Investment	
input	decision	Input	decision	input	decision	input	decision	input	decision
IT003	IT002	IT004	IT002	IT004	IT002	IT004	IT002	IT002	IT001
IT004		IT005		IT005		IT005	IT001		
		IT006		IT006					

8. IT GOVERNANCE STRUCTURES AND MODELS

Guiding Principles for IT
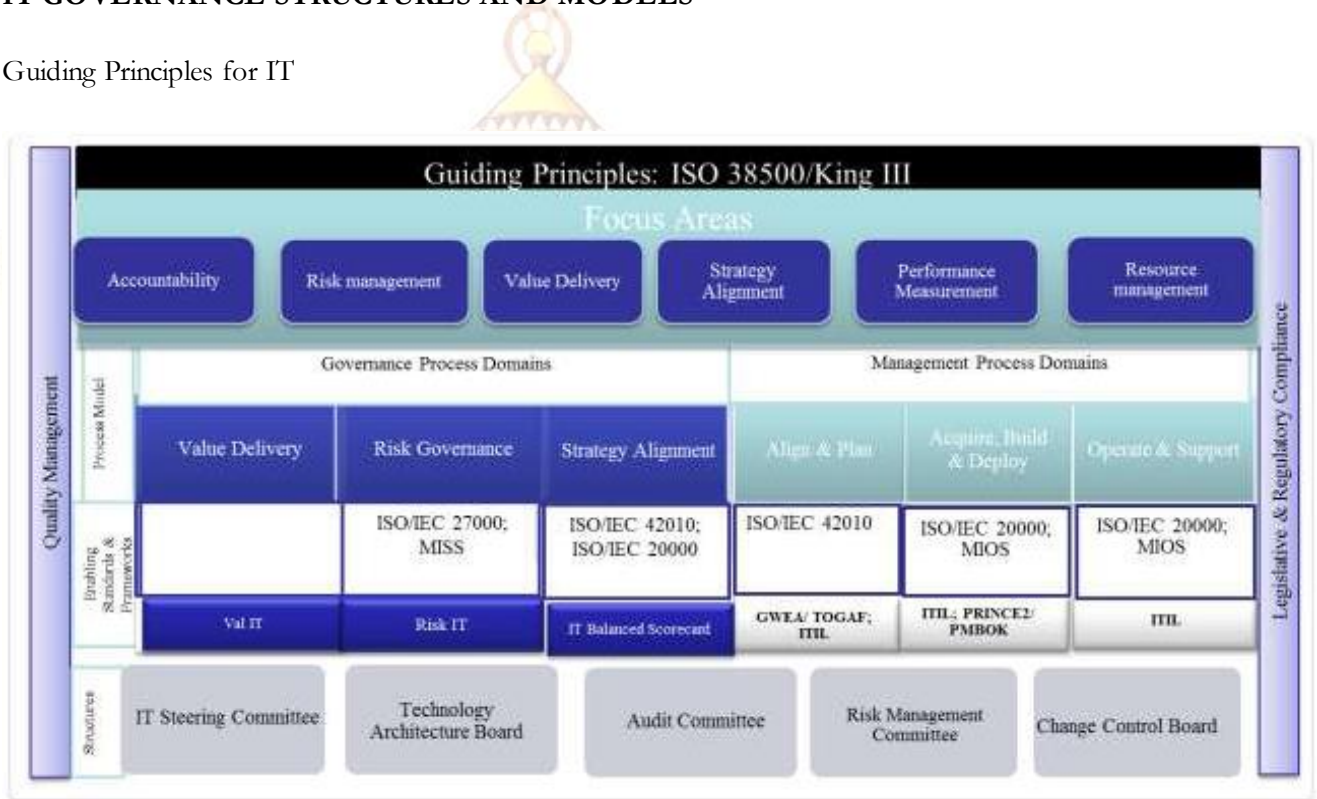
The above diagram depicts all the adopted national and international standards and guidelines for the Municipalities IT governance framework. All the above shall be used in formulating policies, rolling out projects and in deploying and controlling IT services.
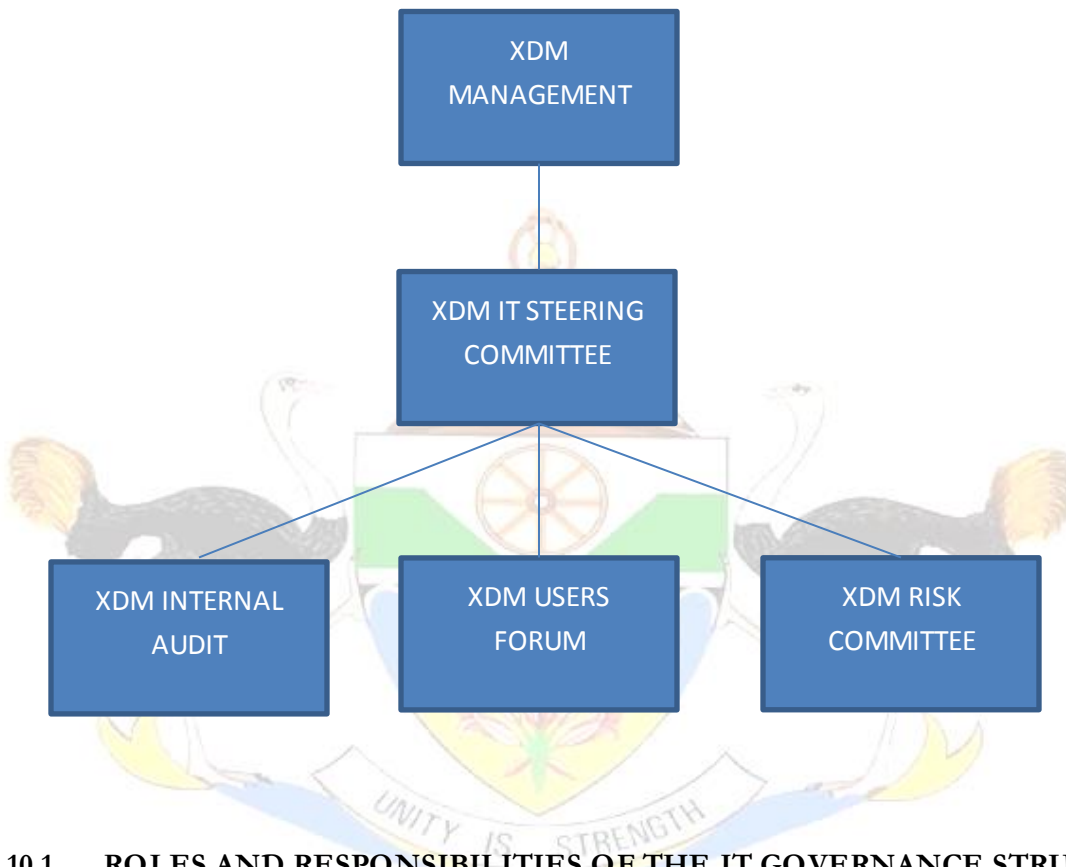
9. IT PROCESS MODEL

ICT Supply Chain Risk Management requires contributions and collaboration among many disciplines with recognized standards
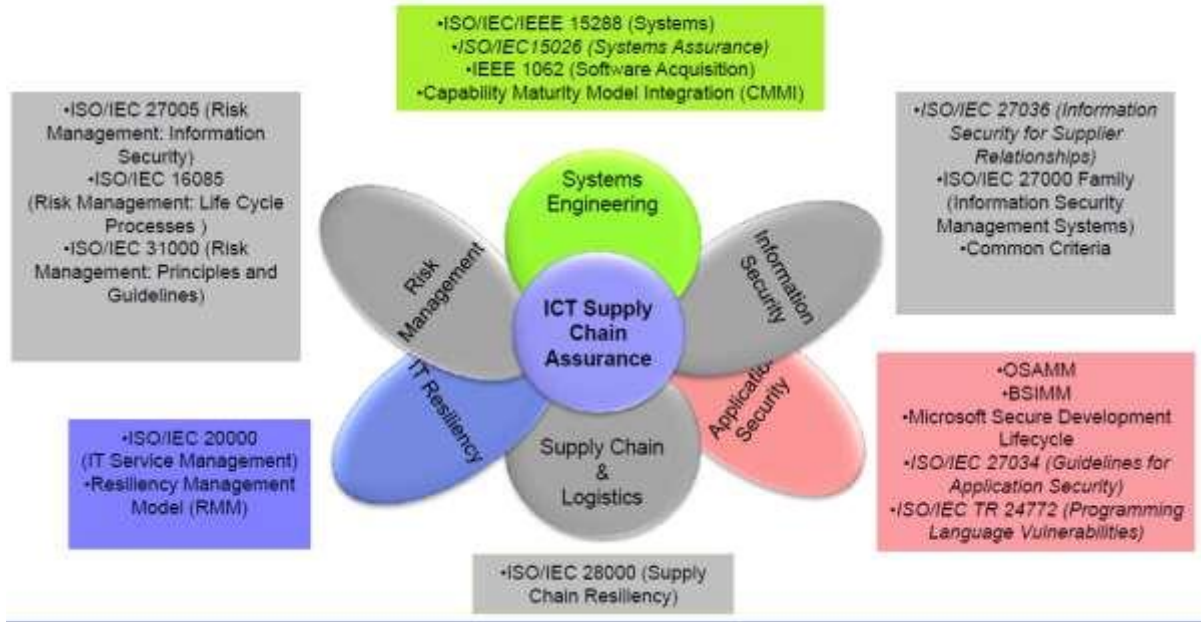
10. IT GOVERNANCE STRUCTURES

The following Organogram Shows IT Governance Structures in Xhariep District Municipality

10.1. ROLES AND RESPONSIBILITIES OF THE IT GOVERNANCE STRUCTURES

10.1.1. XDM Management

The Xhariep District Municipality Management must play an oversight role on IT projects and activities and must also ensure that IT is budgeted for in their respective departments

10.1.2. XDM IT Steering Committee

The Xhariep District Municipality IT Steering Committee must be responsible for the following:

a) **Leadership and Direction**

Articulate the Municipality's goals and vision, drive, drive, guide and inspiration. It must direct Municipality's strategy and operations with the view to achieve sustainable economy, social and environmental performance

The committee is to,
- o Place the IT on the management agenda
- o Clarify business strategies and objectives, and the role of IT in achieving those goals
- o Delegate responsibility for implementing the IT Governance Framework
- o Determine and communicate levels of risk tolerance/appetite
- o Assign accountability for the organizational changes needed for IT to succeed

b) Monitoring and Evaluation

The committee is to,
- o Ensure that the IT is aligned with the Municipality's objectives
- o Monitor and evaluate the extent to which IT actually sustains and enhances the company objectives.
- o Monitor and evaluate the acquisition and appropriate use of technology, process and people
- o Ensure that an internal control framework has been adopted, implemented and is effective
- o Use the risk and audit committees to assist the board fulfil its responsibilities
- o Obtain project assurance from independent experts that IT management applies all basic elements of appropriate project management principles to all IT projects.
- o Obtain independent assurance of the governance and controls supporting outsourced services.
- o Monitor the application of King III governance principles by all parties, at all levels (starting with the Committee), at all stages of business operations, across organizational boundaries (including third parties) and for the acquisition and disposal of IT goods and services.

c) IT Reporting to the XDM Management

XDM Steering Committee should increase transparency and provide the Management with complete, timely, relevant, accurate and accessible information about:

- o The likelihood of IT achieving its objectives
- o Its resilience to learn and adapt
- o The judicious management of the inherent risks from using IT, including disaster recovery?
- o How well IT has recognized opportunities and acted on them?

The Committee should take steps to ensure that resources are in place to ensure that comprehensive IT reporting is in place, both to the Management.

10.1.3. XDM Internal Audit

The Internal Audit must play an advisory role to the IT function and to ensure that the IT function is achieving the requirements of the Auditor General

10.1.4. XDM User Forum

The User Forum, consist of users and super user of the different systems deployed in the municipality. The forum must inform the IT function of the difficulties they experience using the municipal information system, so that those can be attended. They must be the source of information during project implementation, providing project staff will all the necessary information regarding the processes of the municipality, efficiency and deficiency of those systems and process.

10.1.5. XDM Risk Management

IT Risk related issues will be dealt with by the Risk Management Office under that Risk Management Office's mandates.

10.1.6. Roles and Responsibilities: Information Technology Manager

o   Member of the IT Steering Committee
o   Interact regularly on matters of IT governance with the Senior Management, to both understand the accountability and responsibility of IT.
o   Implement an IT Governance framework to deliver value and manage risk.
o   Implement a suitable organizational structure and define terms of reference.
o   Incorporate IT into the business processes in a secure, sustainable manner.
o   Implement an ethical IT governance and management culture
o   Implement an IT control framework
o   Obtain assurance on the effectiveness of the IT control framework
o   Implement processes to ensure that reporting to the board is complete, timely, relevant, accurate and accessible
o   Implement a strategic IT planning process that is integrated with the business strategy development process.
o   Integrate IT plans with the business plans
o   Define, maintain and validate the IT value proposition
o   Align IT activities with environmental sustainability objectives
o   Include relevant representation from the business in oversight structures
o   Have regard for the legislative requirements that apply to IT
o   Translate business requirements into efficient and effective IT solutions
o   Support the business and governance requirements in a timely and accurate manner through the acquisition of people, process and technology
o   Optimize resources usage, leverage knowledge

- o Ensure that the business value proposition is proportional to the level of investment
- o Deliver the expected return from IT investments
- o Protect information and intellectual property
- o Promote sharing and Monitor and enforce good governance principles across all parties in the chain from supply to disposal of IT services and goods
- o Obtain independent assurance that outsourced service providers have applied the principles of IT governance
- o Obtain independent assurance of the effectiveness of the IT controls framework implemented by service providers
- o Obtain independent assurance that the basic elements of appropriate project management principles are applied to all IT projects
- o Regularly demonstrate to the senior management that the municipality has adequate business resilience arrangements in the event of a disaster affecting IT
- o Implement a risk management process based on the management risk appetite
- o Select and use an appropriate framework for managing risk
- o Comply with applicable laws and regulations
- o Manage information assets effectively
- o Implement an information security management system in accordance with an appropriate information security framework
- o Provide the Audit and Risk Committees with relevant controls in place
- o Measure, manage and communicate IT performance
- o Report to the IT Steering Committee on IT performance
- o Enterprise Analysis of the entire Institution based on the IT Governance framework
- o Derive IT Goals from the Enterprise Goals
- o Business Process Analysis
- o Identify and Improve gaps in the business processes
- o Analyze and design new processes where need
- o Analyze IT Resources (Hardware, Software, Applications, Information and People) to ensure compliance to the standard set out in the IT Governance Framework
- o Analyze IT processes (Architecture, Operations, Support and Project Management) to ensure compliance to the standard set out in the IT Governance Framework
- o Analyze IT Security (Identity and Access Management, Threats and Vulnerability Management) to ensure compliance to the standard set out in the IT Governance Framework
- o Analyze and assess Business Continuity (Business Impact, Disaster Recovery Plan and Communication Crisis Management) to ensure compliance to the standard set out in the IT Governance Framework
- o Ongoing IT Infrastructure, Information Systems and IT Environment Maintenance

10.1.7. Roles and Responsibilities: Information Technology Officer

The Municipality must appoint a IT Officer who will support the head of the institution or the CITO by performing the formally delegated responsibilities in respect of IT security. The head of the institution should formally delegate these responsibilities to the security officer, which should at least include the following:

- o Develop and maintain an IT security policy, as well as security procedures and standards of the operating unit and provide guidance consistent with the municipality's requirements and the specifications of the MISS

- o Conduct reviews of all systems to ensure that effective IT security policies are in place for each system and include the following:
  - Risk assessments
  - Current and effective IT security plans that are integrated into all stages of the system life cycle
  - Annual system assessments
  - Current and tested contingency plans
  - Current certification and accreditation
- o Conduct annual assessments of the operating unit's IT security programme to confirm the effective implementation of and compliance with established policies and procedures
- o Establish a process for tracking remedial actions to mitigate risks in accordance with the institution's standard for plan of action and milestones
- o Maintain the IT system inventory in accordance with the institution's standards for inventory management
- o Establish a process for ensuring that all users (such as the IT Officer, system administrators, contracted staff, technical representatives) are periodically briefed about IT security awareness and receive copies of rules of behavior, as well as training to enable them to fulfil their IT security responsibilities and understand the consequences of non-compliance
- o Act as the operating unit's central point of contact for all incidents, develop procedures for dealing with incidents and report all incidents to the incident response function
- o Participate as a voting member in the institution's IT Security coordinating committee (SCC), as well as in special committees under the IT SCC and provide other support to the IT SCC as required
- o Cooperate with the institution's accounting officer's and the IT Manager on IT security matters (concerning incidents, potential threats and other concerns)
- o Ensure that system owners establish processes to ensure that
- o IT personnel receive specialized training access privileges are revoked in a timely manner (e.g. after transfer, resignation, retirement, change of job description, etc.). In the case of individuals who are separated for adverse reasons, such privileges should be revoked immediately upon, or just prior to notification of the impending action
- o Serve as certification agent for systems within his/her operating unit (except in the case of systems for which the IT security officer is also the system owner, or moderate and high-impact systems for which the IT security officer is also the IS security officer)
- o Establish a process for identifying, tracking and reporting on security patch management
- o Establish a chain of custody that documents the name, title, office and telephone number of each individual who has sequential possession of a system hard drive

when it is removed due to compromise and might be subjected to forensic examination as evidence in potential prosecutions

o Ensure that cryptography is used for the transmission of classified information that impact national security, in accordance with the institution's security policy

o Ensure that IT security is addressed in the development and acquisition of information systems and security-related products and services by:

- following a methodology for security considerations in the information system development life cycle
- working with system owners to determine the information type and system impact levels and the control baseline for the protection of the system and its data
- working with system owners to ensure the integration of the system security configuration into the security architecture, which, in turn, is integrated into the institution's overarching IT enterprise architecture

o Ensure that network and system warning banners communicate that there is no expectation of privacy in the authorized or unauthorized use of IT systems

o Ensure that the institution's policies and practices allow for the following management controls:

- Creation of accounts based on formal requests and authentication by user's supervisors
- Identification and documentation of user accounts with appropriate access levels/account permissions
- Account termination
- Periodic status reviews of all currently open accounts on all systems through the auditing (review) of user accounts (employee, contractor and guest accounts)

o Administer access control software.

o Review access rights on a regular basis to ensure compliance with the data security policies and procedures

o Monitor security and investigate security violation attempts

10.1.8. **Roles and Responsibilities: Network Administrator**

o To administer the network to support users with special network needs by:
- Creating and maintaining server based organizational folder structure
- Assisting users on how to use network resources
- Developing and maintaining internal computerized systems

o Maintain computer network and computer hard and software to ensure continuity in computer networks time by:
- Conduct preventative maintenance

- Install and upgrading of new computer components (hardware and software)
- Performing upgrades and repairs on computers/peripheral devices
- Servicing computer equipment
- Ensure maximum security for the organizational network
- Troubleshooting less complex problems with remote and local users online/telephonically or visiting sites to analyze, diagnose and resolve application and operating system related problems

o To maintain the internet for organization to provide relevant information to end user to enhance service efficiency by:

- Updating the intranet with relevant information regularly
- Promoting the utilization of the intranet

o Advise the IT Officer on latest Information Technology developments to ensure that the municipality is in line with computer technologies and new developments by:

- Attending presentations arranged by service providers
- Reporting to the IT Officer and making proposals on new issues

o Report to the supervisor regarding work related problems and computer related issues to ensure 100% connectivity or end users throughout the municipality:

o Perform any other related duties as instructed by supervisor