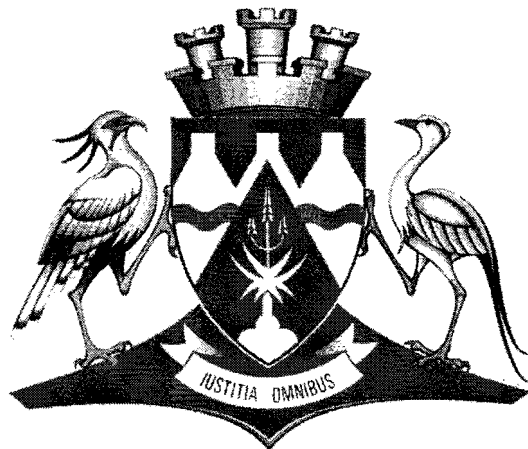


PIXLEY ka SEME DISTRICT MUNICIPALITY



INFORMATION TECHNOLOGY GOVERNANCE FRAMEWORK

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Revision History

| Version | Date | Status | Responsible person |
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Glossary of Terms

| Term | Definition |
|----------------------|---|
| Accounting Officer | Each municipal council is headed by a Municipal Manager who is the head of administration and also the accounting officer. The municipal manager advises council and its committees on administrative matters such as policy issues, financial matters, organisational requirements, and personnel matters. According to the Local Government: Municipal Systems Amendment Act: 2011 Municipal Manager is appointed in terms of Section 82 of the Municipal Structures Act. |
| AG | Auditor-General |
| COBIT™ | Control Objectives for Information and Related Technology. An IT Governance Framework and Toolset that allows managers to bridge the gap between control requirements, technical issues and business risks |
| Corporate Governance | The set of responsibilities and practices exercised by the Council and Senior Management with the goals of providing strategic direction, ensuring that objectives are achieved, ascertaining that risks are managed appropriately and verifying that the enterprise's resources are used. |
| Governance of ICT | The effective and efficient management of IT resources to facilitate the achievement of company strategic objectives. (King III: 2009) Is the responsibility of executives and the board of directors and consists of the leadership, organisational structures and processes that ensure that the enterprise's IT sustains and extends the organisation's strategy and objectives (ITGI 2005) |
| DPSA | Department of Public Service and Administration. |
| EXCO | Senior Management |
| Executive Authority | According to the Local Government: Municipal Systems Amendment Act: 2000 The Executive and legislative Authority in a Municipality is exercised by the Council of the Municipality, and the Council takes all the decisions of the Municipality subject to section 59. |
| Senior Management | Senior Management could include the Municipal Manager and the section 56 management. This normally constitutes the Management Team of the municipality. |
| ITO | Information Technology Officer |
| Institution | Municipalities and municipal entities, and independent institutions established by the constitution of the Republic of South Africa. |
| MM | Municipal Manager |
| ICT | Information and Communications Technology, also referred to as IT |
| IT | Information Technology, also referred to as ICT |

| Term | Definition |
|-----------------|--|
| ITGI™ | IT Governance Institute |
| ISACA® | Information Systems Audit and Control Association. |
| King III | The King Code of Corporate Governance for South Africa 2009 |
| Risk Management | A systematic and formalised process to identify assesses, manage, and monitor risks. |
| SITA | State Information Technology Agency |
| Framework | A basic conceptual structure with items which supports a particular approach to a specific objective. E.g. COBIT is an IT governance framework |
| DRP | Disaster Recovery Plan |
| Control | A procedure or policy that provides a reasonable assurance that the information technology (IT) used by an organisation operates as intended. |
| ISMS | Information Security Management System |
| ITIL | Information Technology Infrastructure Library |
| ISO/IEC | International Standards Organisation (ISO) and the International Electro Technical Commission (IEC) |
| ISO/IEC 2000 | The first international standard for IT service management. It was developed in 2005, by ISO/IEC JTC1 SC7 and revised in 2011. |
| ISO/IEC 24762 | International standard - Security techniques - Guidelines for information and communications technology disaster recovery services. |
| ISO/IEC 27001/2 | Part of the ISO/IEC 27000 family of standards, is an Information Security Management System (ISMS) standard published in October 2005. |
| ISO 38500 | Corporate governance of information technology standard. Provides a framework for effective governance of IT to assist those at the highest level of organisations to understand and fulfil their legal, regulatory, and ethical obligations in respect of their organisations' use of IT. |
| IT Goals | Processes that ensure that IT sustains and extends the organisation's strategy and objectives. |
| BCP | Business Continuity Plan |
| SDBIP | Service Delivery and Budget Implementation Plan. |

Introduction

The use of ICT within the Municipality is to serve as a strategic enabler for effective administration and the public service delivery, the values and key focus areas as set out in the ICT House of Values (see below, Figure 1), enable the Municipality to achieve its outcomes.

The ICT House of Values

The main aim of the ICT House of Values is to ultimately reduce ICT costs for Government, Improve Government's efficiency and effectiveness and make it convenient for citizens to access Government services, and these will be achieved when we have a view of all Government processes, ICT products, services and projects, thus allowing us to:

- a. Reduce Duplication – ensure reuse and sharing of existing solutions;
- b. Leverage on Economies of Scale – use our buying powers to procure ICT products and services for Government centrally;
- c. Ensure that all products and services are Secure;
- d. Ensure that all ICT solutions within Government can Integrate/Interoperate; and
- e. Ensure that we empower the previously disadvantaged by:
 - i. Providing them with access to economic opportunities;
 - ii. Providing them with a cost-effective way of accessing Government services via different channels – anywhere, anytime, anyhow; and
 - iii. Providing them with training and overall skills development to understand and to use the different channels available to them to access Government services.

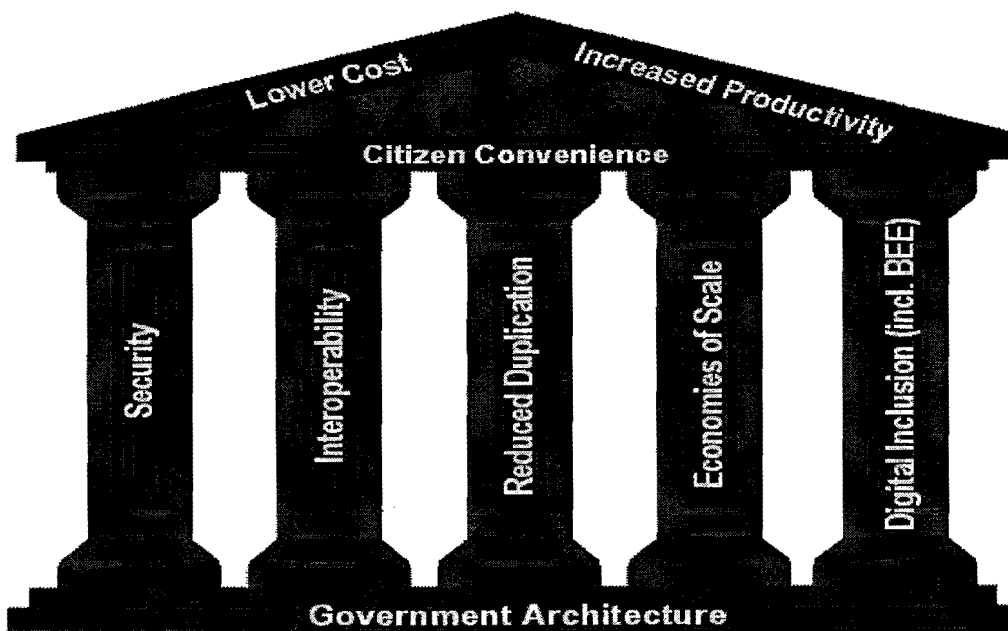


Figure 1: ICT House of Values

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Investments in Information Systems hardware, software, and telecommunications equipment now constitute significant proportion of all capital investment in many organisations with no exception to Pixley Ka Seme District Municipality. The result of this massive spending in Information Systems and Technologies is reflected in the way an organisation is doing business.

In recent years there has been a growing realisation of the importance of IT governance, as emphasised by King III (Chapter 5), the PRC report and the AG findings.

There are international and national standards and mechanisms available that provides guidance and frameworks for the implementation of ICT governance, i.e.

- King III Code of governance
- COBIT™
- ITIL v3
- ISO 38500

An institution should understand and manage the risks, benefits, and constraints of ICT. As a consequence, the executive leadership and management should understand the strategic importance of ICT, and assume the responsibility for the governance of ICT, place the governance of ICT on the strategic agenda of the institution. In order to achieve this, it is imperative for the Municipality to implement a governance system for the ICT framework.

Political and Senior Management of the institution need to extend governance as a good management practice to ICT, evaluate, monitor, and direct the execution of ICT in the Municipality.

Scope of this Framework

This framework offers guiding principles for the Senior Management of Pixley Ka Seme District Municipality on effective, efficient, and acceptable use of IT within the Municipality. It applies to the governance of management processes and decisions relating to the IT services use by the Municipality.

Purpose of the IT Governance Framework

The purpose of this framework is to promote effective, efficient, and acceptable use of IT in the Municipality by:

1. Embedding Corporate Governance of ICT and Governance of ICT as an integral part of Corporate Governance within Pixley ka Seme District Municipality.
2. Creating business value through ICT enablement by ensuring business and ICT strategic alignment.

3. Provide relevant ICT resources, organisational structure, capacity and capability to enable ICT service delivery.
4. Achieving and monitoring ICT service delivery performance and conformance to relevant internal and external policies, frameworks, laws, regulations, standards, and practices.

Applicability

This framework shall be applicable to all Pixley Ka Seme District Municipality ICT users, councillors, officials, consultants, service providers, contractors, visitors, stakeholders, and any other individual or institution that might be directly or indirectly working with Pixley Ka Seme District Municipality.

Corporate Governance in the Municipality

The purpose of corporate governance in the Municipality is to create value for stakeholders of the institution. It consists of the governance system that affects the way the Municipality is managed and controlled. It entrenches ethics, culture, values, and behaviour, as it defines the relationships between stakeholders and the strategic goals of the Municipality. Corporate governance is a vehicle through which value is created within the municipality. Value creation means realising benefits at an optimal resource cost while managing risks and it takes place within a governance system that is established through this framework. A governance system refers to all the means and mechanisms that enable stakeholders of the municipality to have a structured and organised say in:

1. Evaluate internal and external context, strategic direction and risk to conceptualise the municipality's strategic goals and how it will be measured.
2. Direct the municipality in execution of strategic goals to ensure that value is realised and risk is managed.
3. Monitor the execution of strategic goals within the municipality against the measures identified for attaining strategic goals.

Corporate governance is also concerned with individual accountability and responsibilities within a municipality. It describes how the institution is directed and controlled and is in particular concerned with:

- Organisation - the organisational structures, and coordinating mechanisms (such as steering forums) established within the institution and in partnership with external bodies;
- Management – the individual roles and responsibilities established to manage business change and operational services; and
- Policies - the frameworks established for making decisions and the context and constraints within which decisions are taken.

ICT Governance in the Municipality

The governance of ICT is a subset of corporate governance and an integral part of the governance system within the Municipality. It is defined as “the system by which the current and future use of IT is directed and controlled. It involves evaluating and directing the plans for the use of IT to support the organisation and monitoring this use to achieve the plans. It includes strategy and policies for using IT within an organisation.”

The Frameworks and Standards

The framework is based on the following standards:

1. **King III Code of governance** is the most commonly accepted corporate governance framework in South Africa and is also valid for the Public Service. It has been used to provide governance of ICT principles and establish the relationship between corporate governance and ICT governance.
2. **ISO/IEC 38500^{IV}** is internationally accepted as the standard for ICT governance and provides governance principles and a model. This international standard is adopted by South Africa as SANS 38500.
3. **COBITTM** is an internationally accepted process framework for the implementation of ICT governance.
4. **ITIL v3** is an internationally accepted IT Service Management governance framework.

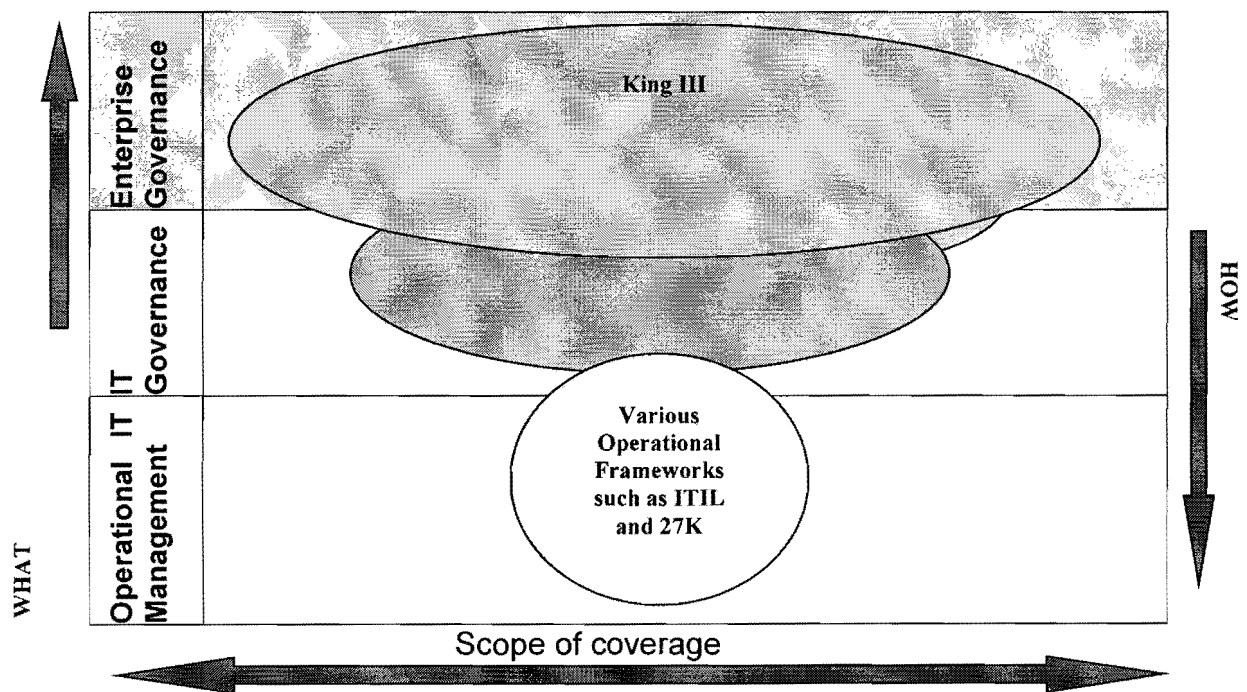


Figure 2: Interrelated Reference Base of this Framework

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Advantages of adopting the ICT Governance Framework

ICT has become an integral part of doing business today, as it is fundamental to the support, sustainability and growth of municipalities. ICT cuts across all aspects, components and processes in business and is therefore not only an operational enabler for a municipality, but an important strategic asset which can be leveraged to create opportunities and to gain competitive advantage.

As well as being a strategic asset to the municipality, ICT also presents municipalities with significant risks. The strategic asset of ICT and its related risks and constraints should be well governed and controlled to ensure that ICT supports the strategic objectives of the organisation.

By adopting an ICT Governance Framework, municipalities are in compliance with King III Code of Governance which stipulates that prudent and reasonable steps must be taken with respect to ICT governance.

Adopting a strategic approach to ICT Governance extends the horizon of thinking beyond the boundary of "are we compliant, yes or no?" towards performance management, guiding optimal allocation of a municipality's finite resources and providing the means to capture value back from the investment.

Challenges of adopting the ICT Governance Framework

One of the major challenge in implementing an ICT Governance Framework stems from the difficult task of taking a strategic viewpoint to assess and improve governance. The decision to go ahead has to come from the highest office. If the major benefits of adopting an ICT Governance Framework are not realised at this level, implementation attempts are most certainly doomed.

Successful adoption requires orientation, education, and training which does not happen overnight. The availability of suitably skilled staff to perform the many different tasks associated with a framework implementation comes with its own challenges. Training staff in the various required disciplines are often expensive and is time consuming. The ability to improve governance is intrinsically tied to the ability to effectively measure it, the tacit knowledge of employees and successfully navigating the complex jungle of best practice, regulations, legislation, standards and the strategic intent of management.

For ICT governance to be successful, it should be a workable solution able to deal with the challenges and pitfalls presented by ICT. It should not only prevent problems but also enable competitive advantage. The management and control of ICT should therefore, be a shared responsibility, with the full support and direction of Senior Management. ICT governance provides the oversight and monitoring of these activities within a wider enterprise governance scheme.

The Corporate Governance of ICT Practices

As the corporate governance of ICT is a subset of corporate governance and is an integral part of the governance system. In terms of such a system:

- a) The Executive Authority provides the political leadership;
- b) The Accounting Officer provides the strategic leadership and is accountable for the implementation of Corporate Governance of ICT; and

- c) Senior Management is responsible to ensure that governance of ICT is implemented and managed.

POLITICAL LEADERSHIP

Executive Authority

CORPORATE GOVERNANCE OF ICT

Executive Authority, Accounting Officer, Senior Management

Evaluate internal and external context, create strategy and *direct* and *monitor* business of the Institution

GOVERNANCE OF ICT

Senior and Middle Management

ICT Strategy: Implementation, execution and reporting

Political Leadership

The Executive Authority must:

- Provide political leadership and strategic direction
- Determine policy and provide oversight;
- Ensure that ICT service delivery enables the attainment of the strategic plan;
- Take interest in the Governance of ICT to the extent necessary to obtain comfort that a properly established and functioning governance of ICT is in place to enable the Institution to leverage ICT as a business enabler.
- Assist the Accounting Officer to deal with inter-governmental, political and other ICT – related municipal business issues beyond their direct control or influence;
- Ensure that the municipality's organizational structure makes provision for the corporate governance of ICT.

Strategic leadership

The Accounting Officer must:

- Provide strategic leadership and management;

- Ensure alignment of the ICT strategic plan with the municipal strategic plan / IDP;
- Ensure that the corporate Governance of ICT is placed on the municipal strategic agenda;
- Ensure that the municipality's organizational structure makes provision for the corporate governance of ICT.
- Ensure the realization of the municipal-wide value through ICT service delivery and management of municipal and ICT related risks;
- The delegation of authority, personal responsibility and accountability to the Senior Management with regards to the Corporate Governance of ICT;
- The provision of appropriate ICT capability and capacity and the appointment of a suitably qualified and experienced ITO. The ITO should have access to and regularly interact on strategic ICT matters with the Accounting Officer and Senior Management;
- Monitor and evaluate the effectiveness of the Corporate Governance of ICT.

Governance of ICT

The Senior and Middle Management must:

- Ensure that ICT goals are aligned with the municipal strategic goals and support strategic business processes;
- ICT strategy is integrated with strategic business processes and that related risks are managed;
- Significant ICT investments and expenditure are informed by the municipality's SDBIP, motivated by Business Cases, monitored and evaluated; and
- Advice is provided to the Accounting Officer on the implementation and management of the Corporate Governance of ICT.

The Principles of Corporate Governance of ICT

| Principle | Description |
|-------------------|--|
| Political Mandate | <ul style="list-style-type: none"> • The Corporate Governance of ICT must enable the municipality's political mandate • The Executive Authority must ensure that the Corporate Governance of ICT achieves the political mandate of the municipality. |
| Strategic Mandate | <ul style="list-style-type: none"> • The Corporate Governance of ICT must enable the municipality's strategic mandate. • The Accounting Officer must ensure that the Corporate Governance |

| | |
|-------------------------------|---|
| | of ICT assists in achieving the municipality's strategic plans. |
| Corporate Governance of ICT | <ul style="list-style-type: none"> • The Accounting Officer is responsible for the Corporate Governance of ICT. • The Accounting Officer must create an enabling environment in respect of the Corporate Governance of ICT within the applicable legislative and regulatory landscape and information security context. • Ensuring that the management practices embrace the concept of delegation of authority, responsibility, accountability, and performance management. |
| ICT Strategic Alignment | <ul style="list-style-type: none"> • ICT service delivery must be aligned with the strategic goals of the municipality. • The Senior Management must ensure that ICT service delivery is aligned with the municipality's strategic goals and that the municipality accounts for current and future capabilities of ICT. It must ensure that ICT is fit for purpose at the current service levels and quality for both current and future municipal needs. • Significant ICT investment and expenditure are informed by the enterprise architecture, motivated (Business case), monitored, and evaluated. • The culture, structures, policies, procedures, processes, mechanisms, and controls regarding all aspects of ICT use are clearly defined, implemented, and enforced. |
| Significant ICT Expenditure | <ul style="list-style-type: none"> • The Senior Management must monitor and evaluate significant ICT expenditure. • Senior Management must monitor and evaluate major ICT expenditure, ensure that the ICT expenditure is made for valid municipal business enabling reasons and monitor and manage the benefits, opportunities, costs and risks resulting from this expenditure, while ensuring that information assets are adequately managed. |
| Risk management and Assurance | <ul style="list-style-type: none"> • Senior Management must ensure that ICT risks are managed and that the ICT function is audited. • Senior Management must ensure that ICT risks are managed within the municipal risk management practice. It must also ensure that the ICT function is audited as part of the municipal audit plan. |
| Organisational Behaviour | <ul style="list-style-type: none"> • Senior Management must ensure that ICT service delivery is sensitive to organizational behaviour / culture. • Senior Management must ensure that the use of ICT demonstrates the understanding of and respect for the organisational behaviour / culture. |

IT Steering committee

The purpose of the Pixley Ka Seme District Municipality's IT Steering Committee is to ensure that everyone in the Municipality understands the link between the Municipality's ICT goals and accept the responsibility with respect to supply and demand of ICT.

- Determine prioritization of IT-enabled investment programs in line with the municipality's strategy and priorities.

- Ensure that all policies relating to IT are developed and approved by council.
- ICT performance is assured through internal and independent audit (AG).
- Intellectual property in the information systems is appropriately protected, and
- ICT assets, privacy, security and personal information of employees are effectively managed.
- Ensure that the role and authority of the IT steering committee are agreed upon and formally documented.
- Ensure that the IT steering committee meets regularly, with an appropriate and monitored frequency.
- Ensure that the IT steering committee approves the high-level control requirements, such as consideration of key performance indicators and balanced scorecards in relation to IT, and monitors controls compliance

ICT Governance oversight structure in Local Government

The need for this ICT governance framework was informed by various investigations in the past. It was found that ICT is not effectively managed on various levels of the municipality as intended by the applicable Acts and regulations.

- a) The Auditor General conducts audits and reports on their findings to relevant authorities.
- b) Municipality:
 - a. Create a sustained enabling environment for the implementation of the governance of ICT.
 - b. Ensure that the governance of ICT is monitored and managed in such a way to achieve continuous improvement of ICT enabled service delivery.

Introduction to COBIT™ Framework

COBIT™ is an internationally recognized framework for the governance of ICT. The implementation of COBIT™ will establish a common knowledge and reference based on which the municipality will be able to perform its Monitoring and Evaluation (M&E) functions. The AG adopted the use of COBIT™ to independently audit the governance of ICT.

COBIT™ will be used to implement this framework and ITILv3 will be used for IT Service Management in the Municipality.

The COBIT™ ICT Governance Framework

COBIT™ is a comprehensive ICT governance framework and was created by ISACA and IGTI™. It is a good practice that has a widespread implementation throughout the world and in South Africa.

COBIT™ would allow the Municipality to achieve its related ICT governance and management objectives, i.e. to create optimal value from ICT by maintaining a balance amongst realizing benefits, managing risks, and balancing resources.

COBIT™ is not a standard that can be implemented; it rather provides an agile framework with which a municipality is afforded flexibility with the implementation according to its specific environment.

As a governance framework, COBIT™ deals with every aspect of ICT, including the complete life cycle of ICT investment. It is a set of ICT governance and management guidelines to provide auditors, managers, and ICT users with a set of:

1. Standard indicators
2. Processes, and
3. Good practices to enable maximization of benefits in using IT.

COBIT™ integrates all of the main global ICT standards, such as ITIL (Service Management), CMMI (Capability Maturity Model Integration), and SANS 2700 1 and 2 (Security). It ensures that ICT:

1. Is aligned with business requirements.
2. Enables the business and maximizes benefits.
3. Activities are organized into a generally accepted process model.
4. Resources are used responsibly.
5. Risks are managed appropriately.
6. Undesired events are prevented or detected and corrected, and
7. Municipality complies with regulatory requirements.

COBIT™ provides a metrics and maturity model to measure the achievement of ICT support to business goals and identify the associated responsibilities of business and ICT process owners.

One of the five COBIT™ principles is an 'Integrator framework' that supports the achievement of governance of ICT objectives. This includes resources such as information and people. The following are seven categories of enablers.

1. Processes
2. Principles and policies
3. Organisational structure
4. Skills and competences
5. Culture and behaviour
6. Service capabilities
7. Information

Enablers interact in a systematic way; meaning that a governance and management system cannot succeed unless all enablers are dealt with and the major interaction are understood.

Implementation

Pixley ka Seme District Municipality has a unique internal and external context. Therefore a common but flexible approach to governance of ICT will be applied, as this framework would make allowance for such flexibility.

As the implementation of the ICT governance in any institution is an enormous task, requiring extensive resources, skills and change management, a phased approach would be recommended. It necessitates the creation of an enabling environment such as:

1. Develop and approve ITSC terms of reference.
2. Establishment of an ITSC.
3. Develop and approve ICT policies.
4. Create the necessary structures and assign roles and responsibilities.
5. Define the necessary processes and procedures.
6. Provide relevant skills and competencies.
7. Apply change management.

The Municipality should achieve continuous improvement in the governance of ICT through the following iterative process.

1. Conduct assessment to determine the "is-as" situation.
2. Develop and implement roadmaps to achieve the desired state, and
3. Embed monitoring and evaluation as a continuous responsibility.

Risk Management Policy

The Municipality shall continually identify, assess and reduce ICT related risks within levels of tolerance set by Senior Management. Risk Management should be informed by the Municipality's Risk Management Policy and the ICT Risk Register.

Business Continuity Plan (BCP)

The Municipality shall develop a business Continuity Policy and Plan that enables critical processes to be continually delivered within the Municipality and to the clients. The Business Continuity Plan must inform the ICT Continuity Plan.

Change Management Plan

The Municipality shall develop a Change Management Policy and Change management Plan that addresses the human behavioral and cultural aspects of the



change. A structured and pro-active approach should be followed to ensure acceptance and buy-in from Political and Strategic Leadership to operational staff of the Municipality.

Review of the Framework

The framework shall be reviewed annually depending upon the new developments that have been introduced within the Municipality.

EXECUTIVE MAYOR :



DATE APPROVED :

30 MARCH 2015

DATE REVIEWED :

27 MAY 2016

RESOLUTION :

R 2016 – 05 – 27 (9.7.18)