White Paper

The State of IT Control Systems for Public Finance Management in South African Municipalities

Sponsored by: BCX

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IDC OPINION

IDC strongly believes that the implementation of key internal controls by local governments can help eliminate unqualified (i.e., undesirable) audit outcomes. These controls, which involve government leaders and cover financial and performance management as well as governance, improve audit outcomes. Producing clean audits — that is, generating financial statements that are free from material misstatements an in compliance with regulations — is not difficult; local government leaders simply need to commit to implementing and monitoring basic internal controls. By so doing, leaders can create an environment in which financial management, service delivery, and compliance deficiencies are prevented and detected in a timely manner. Municipalities with positive audit outcomes are those that have paid attention to such controls.

The use of an effective enterprise resource planning (ERP) system that has been designed to address municipal challenges and improve compliance and governance is one way of achieving improved audit outcomes. In South Africa, the days when vanilla ERP systems dominated public sector auditing processes are coming to an end, as hundreds of local governments in the country have implemented homegrown ERP systems that are designed for their specific needs.

However, some local governments have not yet moved their Excel workloads to ERP systems; small municipalities in the country have also not complied with regulations that enforce stricter internal controls, such as the Municipal Financial Management Act (MFMA), the Municipal Standard Chart of Accounts (mSCOA), and the Public Audit Act.

This paper will help local governments understand the benefits of using proper MFMA-aligned ERP systems to rectify poor auditing procedures. The key criteria to consider when looking for an ERP system include:

- The solution's functionality, ease of use, and ease of implementation and integration with other systems
- The potential for customization
- The existence of local support and development teams
- Enabling compliance with all treasury requirements and legislations such as the Public Finance Management Act and MFMA. These are the regulations that are unique to South Africa, and which the service-oriented local authority resource (SOLAR), for example, is designed to support.
- A strong track record in serving local governments

IN THIS WHITE PAPER

This White Paper will examine how an MFMA-aligned ERP system can help local governments in South Africa achieve better compliance and governance. The paper includes a description of BCX's service-oriented Municipal Solution that is specifically designed for public sector entities, especially municipalities.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

The financial resources of local governments in South Africa have been strained by rapid urbanization and population growth. The use of constrained and aging infrastructure is another factor that has negatively impacted their financial resources. Local governments, particularly metropolitan municipalities like the City of Johannesburg and the City of Cape Town, are being constantly challenged to keep up with expanding public spending needs.

Considering the rising urbanization rates expected in the coming years, municipalities in South Africa are obliged to find ways of addressing emerging challenges such as traffic congestion, parking limitations, crime, and environment issues. Indeed, the infrastructures and resources of multiple cities across the country have been stressed by the growth of urban populations.

Nonetheless, South Africa's National Development Plan provides a clear vision to position local governments as drivers of the structural transformation of the South African economy. As such, local governments must be financially strengthened to keep pace with urbanization.

However, deteriorating finances and significant cash flow problems, especially in local and district municipalities, are constraining the capacities of local governments to act as engines of growth. Many municipalities are also facing a financial crisis. This situation is well depicted in the 2017/18 Auditor General's report, which stated that:

- Some 91% of municipalities in South Africa do not expect to recover more than 10% of their debt, while 64% do not expect to collect 50% or more of the amounts owed to them by customers. Given these expectations, municipalities will inevitably struggle to balance their books.
- Collectively, 34% of municipalities had deficits amounting to ZAR 5.8 billion.
- Some 87% of municipalities exceeded the 30-day payment period offered by creditors – the average payment period was 174 days.

Consequently, some municipalities have been placed under provincial administration per the terms of section 139 (1) of the Constitution.

Severe weather patterns and climate change, the rise in the number of unqualified audits, the misappropriation of public funds, system glitches, and outdated business processes are just some of the challenges facing local governments in South Africa.

To address certain issues (such as the misappropriation of public funds and non-adherence to good governance practices), the South African national government has outlined comprehensive legislation and regulations for local governments. These regulatory frameworks include the mSCOA and the MFMA. However, the MFMA has yet to have a significant positive impact on the financial controls of many local governments in South Africa. There are also persistent issues vis-à-vis internal controls, especially in aspects relating to governance. Areas of concern include inadequate internal risk management procedures, poor basic finance and performance management controls, and non-existent ICT controls.

Given this background, there is a need for efficient public financial management, transparency, and governance. Accordingly, local governments need to use proper MFMA-aligned ERP systems that can help improve compliance and financial management. This White Paper will mainly focus on the factors that constrain effective and financially sustainable measures in local governments across South Africa.

TYPES OF LOCAL GOVERNMENTS IN SOUTH AFRICA

The South African constitution created a unitary state with three autonomous but interdependent spheres of government: national, provincial, and local.

This White Paper will only deal with the local government sphere. In South Africa, local governments are made up of municipalities. Constitutionally, the local governments are responsible for the provision of basic urban services like water, sewage, and solid waste management, road construction and maintenance, and electricity distribution.

Per the Local Government: Municipal Structure Act, there are three categories of municipalities in South Africa: metropolitan, local, and district. Currently, there are 278 municipalities, of which 8 are metropolitan, 44 are district, and 226 are local.

Category A: Metropolitan Municipalities

These types of municipalities are set up in large cities with over 500,000 voters, and are responsible for service delivery in their jurisdictions. Metropolitan municipalities are divided into wards, and local civil servants have exclusive municipal executive and legislative authority in their areas. This implies that a mayoral executive council can function independently and have its own metropolitan budgets, common property rating and service-tariff systems, and employment bodies.

The municipalities in this category are: City of Cape Town, City of Johannesburg, City of Tshwane, Buffalo City, Ekurhuleni Metropolitan Municipality, City of eThekwini, Mangaung Municipality, and Nelson Mandela Metropolitan Municipality.

Category B: Local Municipalities

These are municipalities that fall outside of the eight metropolitan areas. Local municipalities fall within a district and share powers and functions with district municipalities.

Category C: District Municipalities

These types of municipalities administer and make rules for a district, which consists of more than one local municipality. South Africa is divided into 52 districts. These include 8 metropolitan municipalities and 44 district municipalities. Each district municipality comprises of and shares responsibilities with several (4-6) local municipalities.

District and local municipalities share local government responsibilities to ensure that all communities, particularly disadvantaged communities, have equal access to resources and services.

REGULATORY FRAMEWORKS FOR LOCAL GOVERNMENTS IN SOUTH AFRICA

South Africa's constitution regulates different aspects of local government, including the establishment and development of municipalities, administration and financial management in municipalities, and service delivery.

At present, various pieces of legislation are relevant to local governments. The key regulations pertaining to local governments include MFMA, mSCOA, Municipal Systems Act, and Municipal Structure Act.

Municipal Systems Act

This piece of legislation sets out the core principles, mechanisms, and processes that are necessary for municipalities to function. Additionally, the Act defines the legal nature of a municipality, and describes the ways municipal powers and functions are to be exercised in terms of:

- Community participation (by providing methods that councils must use to engage communities)
- Performance management
- Municipality services and entities
- Public administration and human resources
- Credit control and debt collection

Municipal Structure Act

The Act defines:

- The categories of municipalities
- The types of municipalities that can be established within the categories
- The division of functions and powers between the categories of municipalities
- Internal structures and codes of conduct

MFMA

This piece of legislation applies to all municipalities and municipal entities. The Act was introduced to modernize budget and financial management practices in municipalities (with the aim of maximizing the capacity of municipalities to deliver services to all residents, customers, and users).

It also describes processes relating to municipal budgeting, spending, and financial accountability, thereby providing for the proper management of the financial affairs within a municipality.

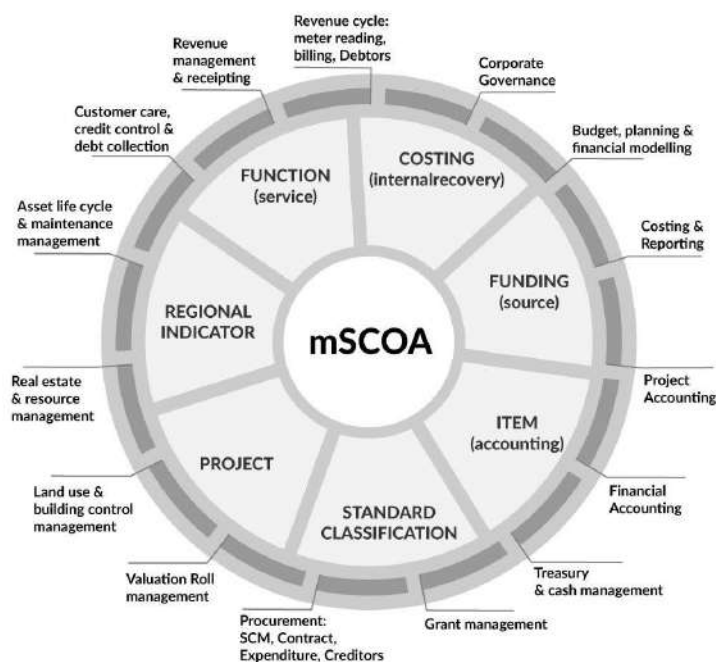### mSCOA

mSCOA is a legislation that standardizes financial management processes via its policy, budgeting, and in-year reporting frameworks and statements. It paves the way for municipalities to use standardized accounting systems for transactions.

FIGURE 1

Benefits of mSCOA

Source: South African National Treasury

Prior to mSCOA, most municipalities only emphasized revenues, expenditures, and cost centers in their statements of accounts. Each municipality formulated its own structures and classifications, thereby creating inconsistencies and raising flags about transparency, accountability, and governance.

According to the South African treasury, mSCOA's benefits for municipalities include:

- Improved data quality and credibility
- Deeper analysis of sector comparisons
- Standardization and alignment of government accountability
- Standardization of account classification

Four metropolitan municipalities (eThekwini, City of Ekurhuleni, Buffalo City, and City of Cape Town) piloted mSCOA enforcement before the 2017/18 financial year. Other metropolitan municipalities have not been successful in implementing the mSCOA.

Public Audit Act

The introduction of the amended Public Audit Act appears to be a first step toward legally forcing municipalities to be accountable, especially considering that the auditor general can only make recommendations, which are not always implemented. Under the amended Act, the auditor general will be able to punish municipalities for failing to implement and follow up on audit recommendations. The amended Public Audit Act empowers the auditor general to:

- Refer matters to a public body for investigation and prosecution
- Take binding remedial actions
- Recover money directly from culprits

The amended Act came into effect on April 1, 2019, meaning that municipalities will be audited under this new law in the 2019/20 financial year.

LOCAL GOVERNMENT CHALLENGES IN SOUTH AFRICA

With some of the tightest budgets on record, municipalities in South Africa are struggling to overhaul their organizations, increase revenue and transparency, streamline staffing, and achieve their missions. Local governments in general face ongoing IT challenges, including persistent and unqualified audits, legacy IT systems, poor service delivery, lack of skills, ineffective supply chain management procedures, and inadequate internal control structures.

Persistent Unqualified Audits and Disclaimers

While a few municipalities are continuously producing clean audits, most have not significantly improved their audit processes over the years.

In the 2017/18 financial year, the auditor general of South Africa audited 257 municipalities. The number of clean audits generated by municipalities decreased from 14% in the previous financial year to 8% in that year. Only 18 municipalities produced clean audits, a regression from the 33 municipalities that had performed clean audits in the previous year.

Furthermore, the number of municipalities that received disclaimers rose to 26 in the 2017/18 financial year, up from 24 in the previous financial year (disclaimers make it evident that auditors were unable to provide opinions about a municipality's overall financial status). The number of adverse opinions also significantly increased from 4 to 10 over the same period.

The 2017/18 auditor general's report showed that most municipalities were unable to collect debt from citizens in their jurisdictions. Inevitably, these municipalities struggled to balance their books due to this inability.

Overall, a lack of accountability on the part of municipal staff appears to be the overarching reason behind the continuously poor local government audits.

Legacy IT Systems

A sizable number of municipalities are sometimes hampered from meeting constitutional mandates and regulatory requirements due to their use of legacy IT infrastructure. Some critical municipal systems use outdated technologies that make optimal operations difficult. This existing IT infrastructure is inadequate to support and enable the implementation of mSCOA.

Additionally, maintaining legacy IT infrastructure can lead to many problems. For example, some municipalities' legacy systems utilize software that is no longer supported – as such, the availability of skilled personnel to work on such systems is often limited.

Considering the high cost of maintaining outdated IT systems and the risks that such systems can introduce – risks that can lead to reputational damage, increased operational issues, and an inability to innovate – all municipalities ought to take a good look at their IT infrastructure, particularly ERP systems.
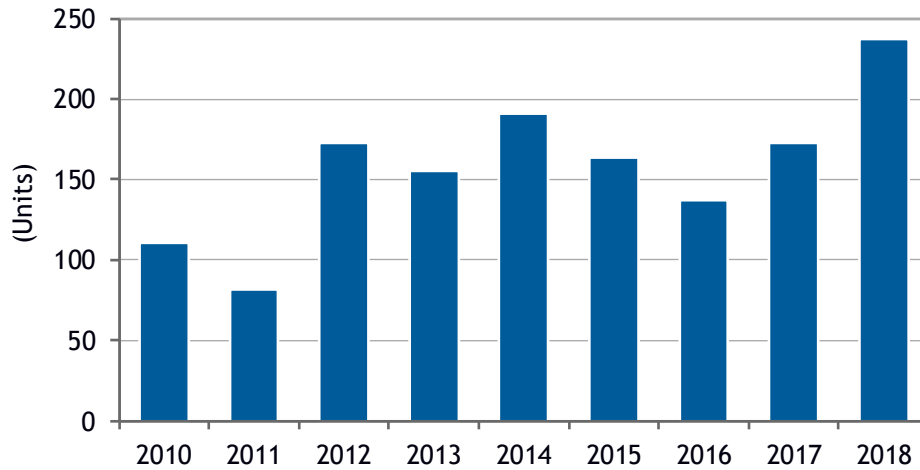
Increased Service Delivery Protests

According to Municipal IQ, a specialized local government data and intelligence firm, there were 237 protests against municipalities in South Africa in 2018, higher than the previous record of 191 protests in 2014.

These service delivery protests are usually due to inadequate local services and/or tardy service delivery in specific wards.

FIGURE 2

Number of Service Delivery Protests, 2010 - 2018

Source: Municipal IQ

In addition to service delivery protests, there are individuals who intentionally do not pay for the services they consume, despite being able to afford to do so. To put an end to this phenomenon, an efficient system that can identify these individuals and institute follow-up mechanisms must be implemented.

Continuous System Glitches

Below are some recent newspaper headlines from South Africa:

"Cape residents face higher bills due to glitch" … "Massive tech glitch hits Joburg billing system" … "Glitches with new e-Siyakhokha website frustrate customers" … "Another victim of City of Joburg's utilities billing mess" … "Joburg faces financial collapse."

While no municipal IT executive wants to read the above headlines in his or her local newspaper, the fact is that such stories highlight the IT infrastructure challenges that executives face.

With the South African economy under immense strain, IT executives at municipalities are under increasing pressure to cut costs and operate more efficiently and effectively. With limited IT budgets, municipal IT executives can only address technological glitches by proactively bolstering innovation and agility.

Non-Adherence to the MFMA

Non-adherence to the MFMA is one of the biggest municipal challenges in South Africa. Despite the stipulations of the MFMA, municipalities continue to spend public funds and resources on non-priority items. In addition, some municipalities still do not have the right tools to comply with the various regulations and laws governing them. This is the main cause for the higher number of unqualified audits each year.

LOCAL GOVERNMENT ICT TRENDS AND PRIORITIES IN SOUTH AFRICA

Municipalities in South Africa have been investing in IT solutions to address constraints and challenges related to aging infrastructure, as well as rapid urbanization, migration, and population growth. However, local governments face ongoing IT challenges such as expensive legacy systems and outdated datacenters.

Citizens' rising expectations for improved government performance will drive new municipal investments. Investments are also being driven by an awareness of the disruptive potential of new and upcoming technologies. Business intelligence, ERP and analytics, and Internet of Things (IoT) solutions are predominantly being deployed by local governments in South Africa. Notably, deployments of these technologies are part of these municipalities' Smart City initiatives.

ICT Trends

Deployment of Mobile Applications

Cities in South Africa (including the City of Tshwane and the City of Johannesburg) have been deploying mobile applications to enhance urban mobility, manage traffic congestion, and reduce crime. For example, the City of Johannesburg's mobile application allows citizens to report faults relating to agencies such as the Johannesburg Roads Agency, City Power, and City Parks. City Power also has a mobile application that enables citizen interactions. By registering on this app, customers can log faults as well as view open faults, load-shedding schedules, planned outages, and other related information about the power supply in Johannesburg.

Rollout of Security and Surveillance Solutions

Local governments are investing in road/traffic monitoring, building monitoring, and mobile CCTV solutions for critical services such as emergency healthcare, firefighting, and rescue operations.

TABLE 1

Examples of Deployments of Security and Surveillance Solutions in Municipalities

Project Owner	Location	Status	Description
City of Johannesburg	Johannesburg	Completed	Installation of 200 CCTV cameras — data is analyzed and monitored in a central room that is interconnected with emergency and police services
City of Tshwane	Tshwane	Completed	Installation of CCTV cameras
City of Cape Town	Cape Town	Completed	Installation of additional 44 CCTV cameras to its surveillance network

Source: IDC, 2020

Modernization of IT Systems

Some local governments, particularly metropolitan municipalities such as the City of Johannesburg and the City of Cape Town, are investing in modernizing citizen-facing systems (such as web portals) and operational efficiency systems (such as ERP and procurement systems).

Rollout of Free Wi-Fi Hotspots

As part of their Smart City initiatives, metropolitan municipalities such as the City of Johannesburg and the City of Cape Town have rolled out free Wi-Fi hotspots in select areas to improve citizen experiences. These Wi-Fi hotspots have been set up at gardens, libraries, clinics, and schools.

TABLE 2

Examples of Rollouts of Free Wi-Fi in Municipalities

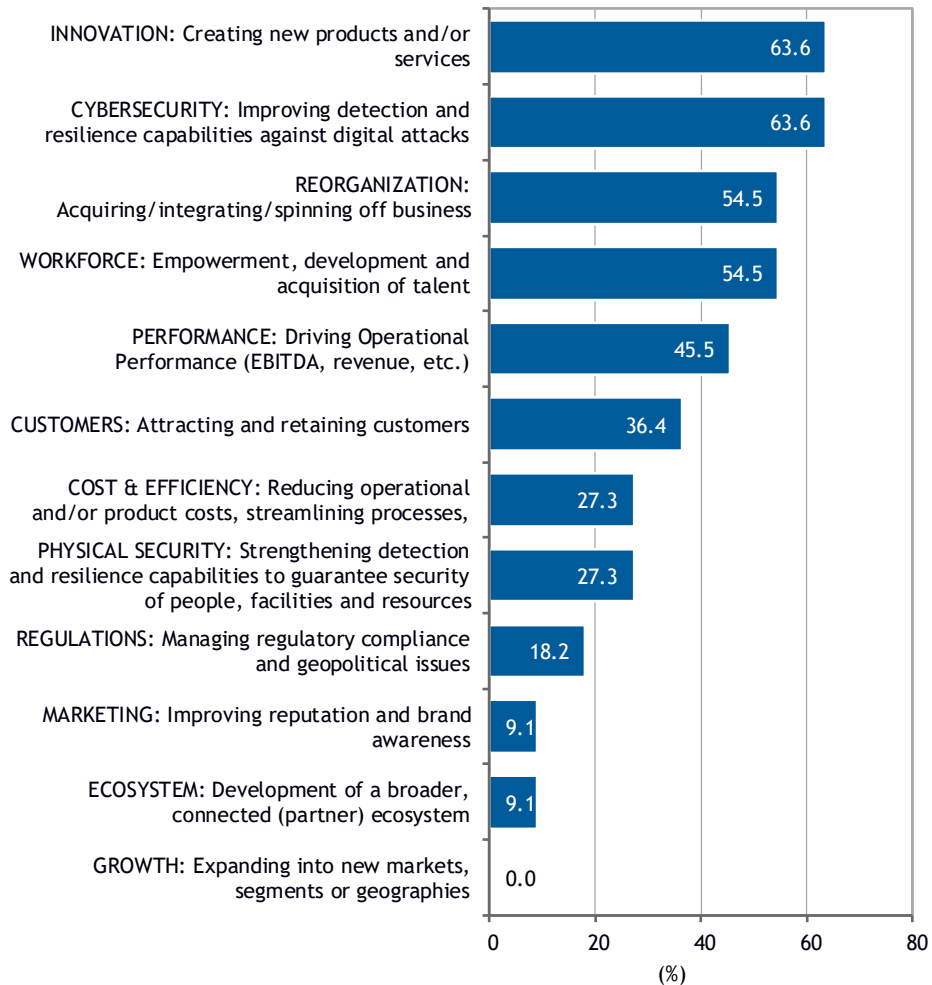| Municipality	Project Description
Ekhuruleni Metropolitan Municipality	The municipality has over 233 Wi-Fi hotspots
City of Cape Town	The City of Cape Town has deployed 290 Wi-Fi access as part of its Wi-Fi access program
Buffalo City Municipality	Buffalo City Municipality has rolled out free Wi-Fi hotspots in public places; access points have been installed in the central business district, libraries, and civic centers
City of Tshwane	Deployment of over 1,000 Wi-Fi hotspots across the city — Tshwane Wi-Fi has over 1 million users

Source: IDC, 2020

ICT Priorities

FIGURE 3

Top Business Priorities, 2019

Q.   Which of these are considered very important business priorities for your organization for 2019?

Priority	%
INNOVATION: Creating new products and/or services	63.6
CYBERSECURITY: Improving detection and resilience capabilities against digital attacks	63.6
REORGANIZATION: Acquiring/integrating/spinning off business	54.5
WORKFORCE: Empowerment, development and acquisition of talent	54.5
PERFORMANCE: Driving Operational Performance (EBITDA, revenue, etc.)	45.5
CUSTOMERS: Attracting and retaining customers	36.4
COST & EFFICIENCY: Reducing operational and/or product costs, streamlining processes,	27.3
PHYSICAL SECURITY: Strengthening detection and resilience capabilities to guarantee security of people, facilities and resources	27.3
REGULATIONS: Managing regulatory compliance and geopolitical issues	18.2
MARKETING: Improving reputation and brand awareness	9.1
ECOSYSTEM: Development of a broader, connected (partner) ecosystem	9.1
GROWTH: Expanding into new markets, segments or geographies	0.0

(%)

Note: N=11

Source: IDC, 2019 CIO Summit

Cybersecurity, innovation, and development and acquisition of talent were the top priorities in the South African public sector (including municipalities) in 2019.

USE AND BENEFITS OF ERP IN LOCAL GOVERNMENT

Several practical measures have been taken by the South African government to ensure municipalities provide better services to citizens and are more accountable and transparent in terms of financial management.

For small and large municipalities alike, an ERP solution deployment will not only eliminate manual processes, but also provide a comprehensive view of their entire municipal operations. ERP solutions automate manual tasks, allow users to produce and access information in real time, and facilitate the sharing of financial reporting/good governance best practices throughout the organization. An ERP solution has various modules for finance and accounting, budget management, human resources and payroll, procurement, inventory and stores, and project accounting and management.

In South Africa, the use of an ERP solution will help local governments save time, reduce costs, and accelerate decision making with minimal risk. Furthermore, the use of an ERP solution will not only facilitate the fast and accurate storage of data, but also provide protection against unauthorized users. An ERP system has an efficient access control mechanism that ensures the right employees have right access to internal systems; this mechanism also ensures that actions can be traced back to specific individuals. For municipalities, an ERP system can manage billing, revenue collection, debt management, and other vital processes.

In South Africa, some municipals have been enjoying positive audit outcomes for several years through their use of BCX's Municipal Solution.

BCX'S SOLAR VALUE PROPOSITION

BCX has purpose-developed its Municipal Solution Core software to service municipalities and municipal entities in South Africa. Municipal Solution Core is one of the most comprehensive and unified solutions currently available for the municipal market. It consists of a core system and complementary, multiple third-party products. The solution assists Municipalities to comply with mSCOA requirements.
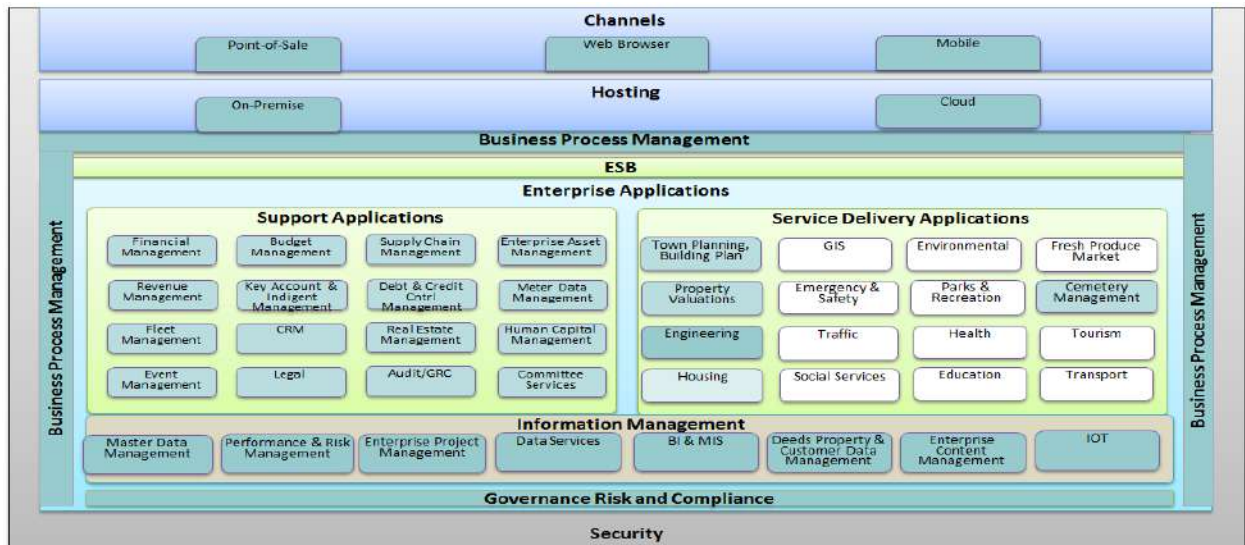
The solution helps municipalities and municipal entities run efficiently and use proper governance and control measures.

Description of the Municipal Solution

Designed specifically for municipalities and municipal entities, Municipal Solution Core is easily implemented in a standardized manner, with multitude of reference sites providing ample real-world insights.

FIGURE 4

Applications Available in the Municipal Solution

Source: BCX

The benefits of the Municipal Solution include:

- Compliance with national treasury financial reforms and transacting methodologies
- Help with the mSCOA regulation compliance
- Conformity with complexed multi-dimensional reporting requirements from an integrated ERP solution
- Integrated suite of products that connects, integrates, and optimizes quickly and simply
- Business process agility
- Back-end systems flexibility
- Dynamic application configuration that complies with the requirements of a volatile regulatory framework

Key Differentiators

Any useful ERP platform possesses logistical, inventory and warehousing, and comprehensive accounting feature sets. For a local government, however, these ERP feature sets must be enhanced to meet more specialized requirements, mainly due to regulatory, legal, and policy standards that are not applicable in the private sector.

Local governments must understand and discuss the degree of customization that might be required to obtain the needed functionality – that is, they must assess whether software is a good "fit" for the problems at hand. While most ERP implementations require some degree of customization to run a client's business, excessive customization can potentially lead to performance problems and higher maintenance costs.

Public-sector ERP systems from global vendors usually require some customization, as they were not designed specifically for local governments in South Africa. When buying these ERP systems, local governments in South Africa will need to set aside some funds for customization. However, small municipalities in South Africa – and even some large ones – do not usually have budgets for such customization.
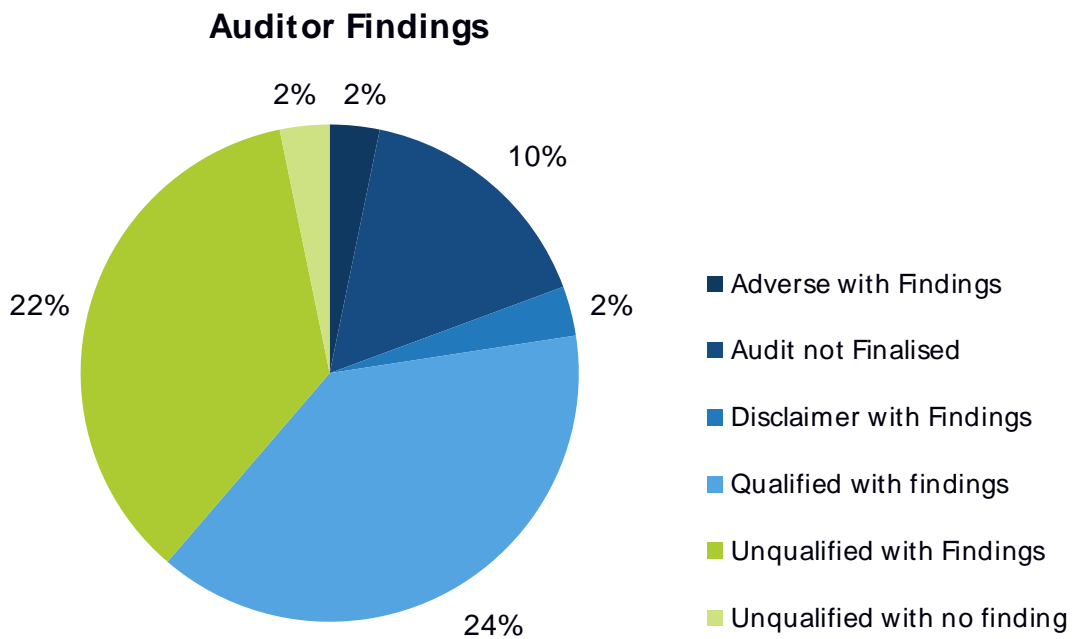
Unlike other ERP solutions from international vendors, Municipal Solution was designed for municipalities and municipal entities in South Africa. In a sense, customers are guaranteed legislative compliance with regulatory requirements such PFMA and MFMA that are unique to South Africa.

Municipalities also have a say in the development of the Municipal Solution software, as BCX engages with senior municipal finance officials to ensure that the solution is responsive to their needs. Furthermore, BCX has a strong track record, as evidenced by its more than 25 years of experience in servicing over 55 municipalities in South Africa. Thanks to BCX's Municipal Solution, millions of rate payers continue to regularly receive accurate billing services.

Thanks to the use of BCX's Municipal Solution, several municipalities have produced clean audits or unqualified audits with findings. Some of these municipalities are among the best-run municipalities in South Africa.

FIGURE 5

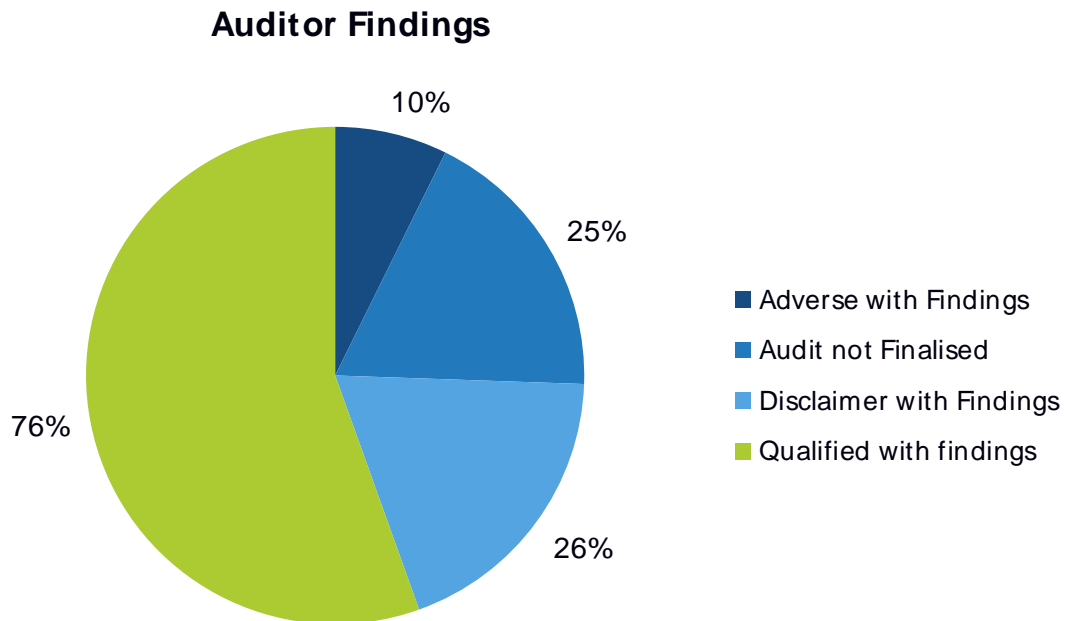**2017/18 Audit Outcomes of Municipalities (South Africa)**

Auditor Findings

- Adverse with Findings
- Audit not Finalised
- Disclaimer with Findings
- Qualified with findings
- Unqualified with Findings
- Unqualified with no finding

Source: MFMA Report 2017/18

Furthermore, most of the municipalities serviced by BCX appear to be having more favorable findings.

FIGURE 6

2017/18 Audit Outcomes for Municipalities Serviced by BCX

Auditor Findings

10%

25%

■ Adverse with Findings
■ Audit not Finalised
■ Disclaimer with Findings
■ Qualified with findings

76%

26%

Source: BCX, 2020

BCX can leverage its parent company's offerings and expansive infrastructure to provide better quality services to municipalities and municipal entities than other ERP solution providers. Some of the strengths BCX can leverage include:

- Telkom's footprint that includes three Tier 4 datacenters
- Expansive fixed-line infrastructure across South Africa
- 147,000 kilometers of fiber optic cable and over 2,700 mobile sites
- Extensive geographical reach with trained IT field engineers in multiple locations in South Africa
- Strong relationships with key technology vendors

Key Customers

Municipal Solution is currently used by 56 municipalities in South Africa.

TABLE 3

Examples of Municipalities Using BCX's Solution

Emfuleni	Madibeng
Drakenstein	Matjhabeng
City of Matlosane	City of Ekurhuleni
Sol Platjie	Buffalo City
Mangaung	Matlosana

Source: IDC, 2020

KEY RECOMMENDATIONS

Local government executives should not halt IT investments for fear of failure or economic concerns. IT tools that enable local governments to deliver value and improve performance should be put in place and managed in accordance with good IT governance parameters.

At present, local government leaders in South Africa have an unprecedented opportunity to implement change, especially technological and cultural change, within their organizations. To this end, these leaders should seek to implement proper MFMA-aligned ERP systems to avoid generating unqualified audits (with findings or without), disclaimers, and adverse audits with findings. Municipalities ought to make clean audits the norm.

Given their importance in the smooth running of any municipality, ERP systems should be carefully evaluated. Local governments should select an ERP system based on the following critical elements:

- Knowledge of local governments in South Africa
- Strong customer references
- MFMA-aligned ERP features
- No customization needed to implement the system
- Ability to support egovernment transactions over the internet

The South African auditor general believes that municipalities with unqualified audit opinions need to pay attention to the quality of the financial statements submitted for auditing and continue improving the quality of performance reporting.

The Department of Cooperative Governance and Traditional Affairs also recommends that municipalities should put in place effective governance procedures, and hire qualified and competent senior professionals to manage municipal finances within applicable policies.

Among the multiple ERP options available on the market, Municipal Solution provides an answer to the challenges faced by many municipalities in South Africa. In terms of implementation, Municipal Solution offers simplicity and scalability, ensuring that a municipality can continue to run efficiently going forward.

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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