

## **Mitigating Information Technology Risks through Governance Disclosure in Metropolitan Municipalities in South Africa**

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### **Abstract**

The aim of this study was to investigate the extent to which South African metropolitan municipalities comply with information technology (IT) governance disclosure requirements in accordance with Principle 12 of the King IV Code of Corporate Governance. Adequate IT governance disclosure

serves as a critical mechanism for promoting sound corporate governance and plays a vital role in mitigating IT-related risks within these municipalities. By examining the degree of adherence to IT governance disclosure practices, this study sought to evaluate how effectively metropolitan municipalities in South Africa utilise such disclosures to address and manage the growing risks associated with IT systems and infrastructure.

Qualitative content analysis was used to investigate South African metropolitan municipalities' IT governance disclosure application with Principle 12 of the King IV Code. The disclosures made were identified in the integrated reports, whereafter, the quality of the disclosure was evaluated. The sample, consisting of four metropolitan municipalities in South Africa, was selected in terms of the number of people living in the municipalities.

The findings from the study indicated that most of the metropolitan municipalities have made the necessary disclosures as per the King IV Code, Principle 12 requirements. The findings also suggested that there is still room for improvement in certain municipalities. This research is relevant for decision and policy makers at the local level of government, by informing decisions around the application of the King IV disclosure requirements on IT governance.

Barring only some exceptions, relatively little is known about the level of IT governance disclosure in local government in South Africa. The research contributes to improving the theory and practice of public administration and governance by focusing on sound governance, sustainable financial management, and effective corporate governance.

**Keywords:** *Good governance, IT governance disclosure, Information technology risks, King IV, Local government, Principle 12 of King IV Code.*

## **Introduction**

IT governance in the context of the Fourth Industrial Revolution is pertinent to ensure that good IT principles are upheld to inspire public trust in the administration by the public sector (Jarbandhan, 2021). The King IV Code on Corporate Governance for South Africa recommends that organisations and public sector institutions must make disclosures pertaining to governance of IT in their annual reports (Barac & Moloi, 2010). The importance of making such disclosures, apart from being transparent, is to communicate the management and practices of IT effectively and efficiently.

To demonstrate good governance, it is important that public sector institutions display application with the IT disclosure requirements in terms of Principle 12 of King IV Code. Governance, when applied

correctly and consistently, assists these organisations in driving IT integration to the rest of the organisation and to become more efficient in the management of its information (Biondi & Russo, 2022).

Appropriate disclosure also ensures that parties interested in the annual reports (such as management, competitors, employees, citizens, customers, governments, investors and investment analysts, lenders, suppliers, and unions) are afforded the opportunity to improve their decision-making by basing it on reliable and verified IT information published in annual reports (Siswana, 2007). Mazzucatu and Kattel (2020) state that the culture of transparency in the form of such IT disclosure in annual reports can have a ripple effect as it can also inspire other departments to be transparent about their IT information.

For public sector institutions to claim that they have sound corporate governance principles in place, they must comply with and adhere to the King IV Code's principles (Institute of Directors of Southern Africa, 2016). This also includes application with sound IT governance principles. King IV focuses on the implementation of practices and then explaining these practices to stakeholders (Viviers et al., 2023). The evidence of application with sound IT governance principles, as prescribed in the King IV Code, is evident through disclosure of adherence to the principles in the annual integrated report. The National Treasury has also established a risk management framework that supports the principles of the King IV Code (Whittle & Nel-Sanders, 2022). This is a comprehensive guideline designed to help public sector organisations, including metropolitan municipalities, implement effective risk management practices which emphasises that such organisations must proactively identify, assess, and manage risks, including IT-related risks, as part of their broader governance strategies. This framework aligns with and supports the principles outlined in the King IV Code of Corporate Governance, particularly regarding risk governance and the management of Information Technology (IT) risks (Institute of Directors of Southern Africa, 2016). These are some of how IT governance disclosures are enforced in public sector institutions.

The King IV Code acknowledges that rapid advances in technology have the potential to create significant disruption, opportunity, and risk (Biondi & Russo, 2022). Principle 12 relates to IT, stipulating that the governing body should govern information and technology in such a way as to support the organisation in setting and achieving its strategic objectives (Institute of Directors of Southern Africa, 2016).

The King IV Code (PricewaterhouseCoopers, 2015) recommends that organisations and public sector institutions that are seeking to manage their IT departments adequately and in a transparent manner can, therefore, rely on the King IV Code for guidance in implementing and managing these strategies (Institute of Directors of Southern Africa, 2016). One of the King IV Code's recommendations is to disclose information about IT governance in their annual reports. The importance of disclosing such information, apart from being transparent, is to communicate the management and practices of IT effectively and efficiently.

This paper's research problem is that public sector institutions, particularly South African metropolitan municipalities, face challenges in adhering to IT governance disclosure requirements as prescribed by the King IV Code. Despite the importance of transparent IT governance in promoting public trust, effective risk management, and better decision-making, there is uncertainty regarding the extent to which these municipalities comply with such disclosure mandates. This study investigates the level of compliance with IT governance disclosure requirements in metropolitan municipalities and aims to assess whether these institutions are effectively mitigating IT-related risks in line with the King IV Code's principles. The research investigates the role of IT governance operations of public sector institutions, including metropolitan municipalities.

The problem also touches on how well IT governance is integrated into the broader risk management frameworks and whether municipalities are transparent and consistent in their IT-related disclosures to support public accountability and governance.

## **Literature Review**

Since the inception of IT, technology has played a pivotal role in supporting individuals, businesses, and nations alike. Stakeholders in society's political, social, and economic spheres have benefitted immensely from the introduction and continuous technological improvements (Institute of Directors of Southern Africa, 2016). Furthermore, it is important to balance the interests of stakeholders (Nel & Van der Spuy, 2021). Technology has introduced us to a new way of doing things in the form of skills, processes, tools, and techniques (Dempsey & Van Dyk, 2023; Kingma, 2019).

In any given country, citizens rely heavily on the services provided by the public sector to access essential daily services (Newman, 2019). These services typically include transportation, health care, safety, infrastructure, education, tourism, and communication, and they are aligned with the public's needs. IT is an important instrument to enable these services. Through the provision of these services, the public sector greatly impacts the public (Hofisi & Shava, 2017). Public sector institutions are not exempt from the use of IT (Feldman & Kogler, 2008) because IT plays a significant role in helping these institutions meet their citizens' needs in terms of access and convenience (Jakoet-Salie, 2020).

Digitisation is an intrinsic trend, in both organisations and public sector institutions, and is becoming an essential aspect of strategy setting and objective achieving (Schwab, 2017). Integrating the digitisation of operations in strategy setting assists organisations in realising the value that can be derived from IT which includes enhancing operational efficiency, reducing costs, improving customer experiences, and better meeting strategic objectives. Thus, it turns this value into a means to aid the organisation in meeting its objectives, because technology could continue affecting the way in which entities are running their affairs (Newman, 2019).

Public sector institutions should implement strategies and initiatives that enhance their operations to accelerate service delivery, achieve their organisational objectives of delivering adequate services and goods to the public, and ensure that the quality of the lives of people being served improves (Fourie & Poggenpoel, 2017). This could then ensure that the services that the public relies on from public sector institutions are delivered to great standards (Hofisi & Shava, 2017).

IT in the public sector ranks highly among the priorities of many governments, including the South African government. It plays a significant role in the day-to-day operations of public sector institutions, including metropolitan municipalities (Jacobs et al., 2019). Public sector institutions that are not implementing IT to their advantage find themselves lagging behind the rest in achieving their organisational objectives (Naidoo & Kuye, 2005) as it plays a critical role in metropolitan municipalities' ability to deliver services to its citizens (Lips, 2020; Dutrenit & Sutz, 2014) and increase the efficiency of service provision (Colley, 2003). A more digitised government environment and systems are also necessary for ensuring that information disseminated by the government to its citizens (especially citizens' and classified

government information) is performed accurately, timeously, safely, and entirely (Arundel et al., 2019).

New technologies bring opportunities for improvements and risks (Da Veiga & Eloff, 2007; Landoll, 2021). Governing IT is imperative to ensure that these risks are prevented, mitigated, or corrected and that oversight over IT management and related aspects is formalised (Weill & Ross, 2004). It manages the relationship between external and internal stakeholders (Peterson, 2004). Bowen et al. (2007) define IT governance as an element of overall business management that aims to improve the overall management of IT and extract greater value from investments in information and technology. It is mainly concerned with aligning IT objectives with the main objectives of organisations, ensuring that IT serves as an enabler for the achievement of the set objectives and also serves as an enabler for achieving institutional goals (Hofisi & Shava, 2017). When IT governance principles are embedded in the functioning of public sector administration, transparency, and accountability related to the decisions and practice of IT become part of the administration's culture, improving aspects such as the formulation and implementation of public sector policies (PricewaterhouseCoopers, 2015; Alqooty, 2020) and increase public trust (Van Ooijen et al., 2019).

Disclosing governance ensures transparency in that information is presented in a responsible, accountable, and ethical manner (Institute of Directors of Southern Africa, 2016), allowing stakeholders to evaluate how accountable the entity is. When transparency is embedded in the operations of the organisation or public sector institution, this improves current and potential investor confidence (Mulyadi et al., 2012).

Risks such as lack of compliance with IT policy, exposure to malware, data breaches, uncontrolled access to data, and failure to comply with set controls are all risks that come with the use of IT, and these need to be governed, thus increasing the emphasis around IT governance (Rama et al., 2023). IT governance is a crucial instrument and process for the management of IT assets as well as the maintenance and advancement of an organisation's goals and strategy (El Khatib et al., 2020).

Various governance and disclosure mechanisms seek to ensure good corporate governance. These mechanisms offer a broad spectrum of coverage on several aspects related to the creation of an ethical environment in organisations and public sector institutions, providing assurance to organisations and public sector institutions that their controls are adequate, nurturing the relationship with stakeholders, and

reaching organisational and public sector institutional objectives (Michalsons, 2020). IT governance policies must be transparent on the management of information and technology, as well as the remedial actions implemented following a major incident in terms of disclosure (Gills, 2016).

One of these governance and disclosure mechanisms is the Sarbanes-Oxley Act of 2002, passed in response to various financial scandals in the United States of America (USA) (Romano, 2004). The principles of the act centre around financial transparency and accountability for both private organisations and public sector institutions. The Cadbury Report of the United Kingdom (UK) is mainly concerned with the financial-related issues of corporate governance (Wiley, 2005). It was established in 1992 and consists of aspects related to internal controls, organisational or institutional fraud, practices of financial reporting, and performance of internal and external audits. The Turnbull Report in the UK is a corporate governance model established in 1998 that focuses on the review of controls related to finance, operations, and compliance. The model requires directors to perform an annual evaluation to determine the effectiveness of controls and to report to shareholders regarding such (Wiley, 2005). The Walker Review Model was formulated in 2009 in response to various financial crises in the UK (Mallin, 2016). The principles contained and endorsed by the Walker review model revolve around the composition and functioning of the board of directors, the relationship between shareholders and the board, and the governance of risk in private and public sector institutions. The emphasis on the governing body is an integral part of the governance process, with IT being a focus area, which is required to be managed, appropriately resourced, and sufficiently defined (Gill, 2016).

Various frameworks and governance mechanisms are available to manage public entities such as metropolitan municipalities. The codes' general goal is to offer recommendations for strategic management that will support organisations' efficient governance, especially with regard to safeguarding stakeholders' and shareholders' rights, treating stakeholders fairly, disclosing information and being transparent, and managing risks effectively. To achieve this, the majority of corporate governance rules specify the duties of strategic managerial boards and offer recommendations for the establishment of solid governance frameworks and the institutionalisation of corporate governance. The public sector is subject to corporate governance in a number of ways. This is seen by the emphasis on creating management standards for the public sector and

the fundamentals of good practice and organisational development (Nel, 2019).

The Public Finance Management Act (PFMA) No. 29 of 1999 is a governance tool mainly utilised to enhance governance of the public sector. The PFMA aims to improve transparency, accountability, and acceptable management of funds, assets, and liabilities for public sector institutions (RSA, 1999). Another governance tool for public sector and public sector institutions is the Municipal Finance Management Act (MFMA). The objective of the MFMA is to enhance transparency in financial affairs, accountability, and acceptable management of funds. This also extends to managing assets and liabilities, specifically for municipalities (RSA, 2003). The Promotion of Access to Information Act (PAIA) is another tool in the public sector that seeks to enhance transparency and accountability in handling private and sensitive information in the custody of both private and public institutions (Vutabwarova & Keevy, 2018). The act also seeks to encourage access to information previously deemed inaccessible by citizens to upgrade the exercise of their rights to information (RSA, 2000). The National Treasury is a public sector institution that seeks to strengthen municipalities' budgeting and reporting practices and the role of treasury is captured in section 5 of the MFMA (National Treasury, 2024).

The King IV Code, published by the Institute of Directors of Southern Africa in 2016, regulates risk management disclosure in South Africa. This code is a set of non-legislative standards focused on leadership, sustainability, and good corporate governance to promote ethical and effective leadership. The King IV Code outlines the "philosophy, principles, practices and outcomes that serve as a benchmark for corporate governance in South Africa". The King IV Code has adopted an 'apply and explain' approach, with 17 basic principles to indicate that good governance is practised in the organisation (Institute of Directors of Southern Africa, 2016). The King IV Code further recognises the role that public sector institutions play in the greater economy within South Africa. It also recognises that, along with the role that these institutions play, there are even greater expectations from their stakeholders. The expectations of stakeholders are no longer based just on financial results (Chauke, 2021). Still, they extend to cover social responsibility, transparency, and good IT governance (Institute of Directors of Southern Africa, 2016).



There are various IT Governance Disclosure frameworks available to guide entities in disclosing their IT governance. This includes Control Objectives for Information and Related Technology (COBIT), assisting organisations in meeting regulatory compliances, and ensuring that IT is aligned with the goals of the organisation or public sector institution (von Solms & von Solms, 2004). The Information Technology Infrastructure Library (ITIL) mainly governs IT and digital service management. It is also an appropriate framework to ensure continuous improvement in organisations and public sector institutions (Mohamed et al., 2008). The Committee of Sponsoring Organisations (COSO) of the Treadway Commission framework is mainly used to establish a system of internal controls and to integrate them into the rest of the processes within the organisation or public sector institution (COSO, 2017). Factor Analysis of Information Risks (FAIR) is a framework for understanding and measuring information risks. The ISO/IEC 27000 series is a mutually supporting security standard developed to provide a globally recognised framework for best-practice information security management (Malatji et al., 2022). These international frameworks are also applied in South Africa.

The recommendations by the King IV Code on management and governance of IT aim to assist public sector institutions in anticipating change and responding to this change by identifying new opportunities presented by the changes as well as managing the risks that come with these changes to ensure success in managing and practising IT in these institutions (Siswana, 2007).

The study used the King IV Code to meet its objective. The King IV Code, as a benchmark for corporate governance in South Africa, guides public sector institutions (including metropolitan municipalities) on IT governance disclosure requirements.

In South Africa, there are 257 municipalities total eight metropolitan municipalities, 44 districts, and 205 local municipalities. Their priorities are service and infrastructure provision, as well as the expansion of regional economies. The Local Government: Municipal Structures Act, 1998 (RSA, 1998) establishes standards for categorising municipalities into local municipalities (category B), district municipalities (category C), and metropolitan municipalities (category A) as required by the Constitution. Additionally, the Act stipulates that only metropolitan areas are permitted to construct category-A municipalities. Single-employer bodies, common property ratings and service-tariff systems, and single

metropolitan budgets are all features of metropolitan councils (Cooperative Governance and Traditional Affairs [GOCTA], n.d).

## **Methodology**

A qualitative approach was adopted to determine the levels of application with the IT governance disclosure requirements for each of the top four metropolitan municipalities as per the King IV Code in terms of Principle 12 (IT governance disclosure). According to this principle, municipalities have to report on how they have applied Principle 12 in terms of King IV in their annual reports. An evaluation was further conducted to identify metropolitan municipalities that are wholly, partially, or not fully applying the disclosure requirements as per the requirements set out in Table 1. Data were collected by way of a desktop review. This approach was appropriate because all the integrated annual reports for the metropolitan municipalities for the year 2021 were publicly available. Unobtrusive research techniques were used to analyse credible literature sources and secondary data. Specifically, comparative analysis and conceptual analysis were used. Unobtrusive research techniques are non-reactive, and information about the research topic is gathered through public documents (Auriacombe, 2016). Thus, documents and publicly available information were used in this study, thus official and unofficial government documents and other relevant unsolicited documents.

A self-constructed research instrument was used to collect the necessary data. Disclosure of the eight King IV Code IT governance principles were used as the basis, which public organisations must demonstrate they utilised in developing application questions. Institutional ethical clearance was obtained for this study. The disclosure requirement questions, as outlined in column 1 of Table 1, in terms of the King IV Principle 12, were used in developing a research instrument. The second column outlines the satisfaction criteria for the disclosure requirement, which entailed formulating self-developed questions to evaluate the precise extent to which the municipalities apply with the IT governance disclosure requirements in terms of King IV.

Information on public organisations' application with these questions was then collected to determine if they met their application requirements. The instrument focuses on the inclusion of the disclosure requirements as well as the satisfaction criteria for disclosure requirement in terms of King IV Code. The research instrument developed is

depicted in Table 1. The research instrument was based on the research objectives.

**Table 1:** *The research instrument*

No	Disclosure requirement	Satisfaction criteria for disclosure requirement
1	Does the metropolitan municipality disclose in its integrated annual report that the responsibility for the governance of IT should rest with the governing body?	A framework for IT internal control has been established and implemented. The governance of IT is a regular topic of discussion during board meetings.
2	Does the metropolitan municipality disclose in its integrated annual report that the governing body has approved a policy around employment of IT?	Mention of an approved policy on the way the municipality should approach IT. The implementation of such a policy.
3	Does the metropolitan municipality disclose in its integrated annual report that the governing body has delegated the responsibility of implementing and executing effective IT management to management?	Management is responsible for establishing structures, processes, and mechanisms for the IT governance framework. The board has established an IT steering committee or similar function to assist the board in its responsibility for IT governance. The CEO has appointed a CIO who is responsible for managing IT.
4	Does the metropolitan municipality disclose in its integrated annual report that the governing body has exercised ongoing oversight of IT management?	The governing body regularly conducts meetings with delegated committees on the management of IT. The governing body regularly receives updates from management on the management of technology.
5	Does the metropolitan municipality disclose in its integrated annual report that the governing body has exercised ongoing oversight of information for the following results? The use of information to preserve and enhance the intellectual capital of the organisation. An information architecture that supports confidentiality, integrity, and availability of information. The protection of privacy of personal	Using information to preserve and enhance the organisation's intellectual capital. An information architecture that supports the confidentiality, integrity, and availability of information. The protection of privacy of personal information. The continuous monitoring of the security of information.

	<p>information.</p> <p>The continuous monitoring of the security of information.</p>	
6	<p>Does the metropolitan municipality disclose in its integrated annual report that the governing body has exercised ongoing oversight of technology for the following results?</p> <p>A technology architecture that enables the achievement of strategic and operational objectives.</p> <p>The management of risks associated with the acquisition of technology, monitoring and responding appropriately to technology developments, including capturing potential opportunities, and managing the disruptive impact on the organisation and its business model.</p>	<p>The governing body periodically monitors the return on investment from significant technological projects.</p> <p>The governing body ensures that protective measures have been implemented to safeguard intellectual property contained in information systems.</p> <p>The governing body ensures that precautions are taken to protect the intellectual property contained in the information systems.</p> <p>The governing body receives independent assurance for IT governance and controls to support outsourced IT services.</p>
7	<p>Does the metropolitan municipality disclose in its integrated annual report that the governing body has considered the need to obtain independent assurance on a regular basis about the effectiveness of the organisation's IT arrangements, including outsourced services?</p>	<p>Independent assurance was obtained on the effectiveness of the organisation's internal controls.</p>
8	<p>Does the metropolitan municipality disclose the following in its integrated annual report?</p> <p>An overview of the arrangements for managing IT.</p> <p>Areas of focus during the reporting period, including objectives, significant policy changes, significant acquisitions, and remedial actions taken as a result of major incidents.</p> <p>Actions taken to monitor the effectiveness of IT management and how results were addressed.</p> <p>Planned areas for future focus.</p>	<p>An overview of the scheme for managing IT.</p> <p>Focus areas during the reporting period, including objectives, significant policy changes, major acquisitions, and remedial actions resulting from major incidents.</p> <p>Measures used to monitor the effectiveness of IT management and how outcomes were addressed.</p>

**Source:** *Authors' compilation*

## Sample

For this study, a non-probability sampling design was used to select four metropolitan municipalities in South Africa. In order to find and choose cases with a lot of information about the phenomenon of interest, purposeful sampling is frequently employed in qualitative research (Palinkas et al., 2016). The purposive or judgemental sampling technique was used for selection of the metropolitan municipalities. These were selected in terms of the number of people living in the municipalities (population size). According to Statistics South Africa (Stats SA, 2019), there are eight metropolitan municipalities in South Africa. The municipalities selected as part of the sample represent 72% of the population of the metropolitan municipalities' population (Stats SA, 2019), and they are outlined in Table 2.

**Table 2:** *Metropolitan municipalities' population*

No	Name of metropolitan municipality	Total population	Province
1	City of Joburg	4 949 347	Gauteng
2	City of Cape Town	4 005 015	Western Cape
3	City of eThekwin (Durban)	3 702 231	KwaZulu-Natal
4	City of Ekurhuleni	3 379 104	Gauteng

**Source:** *Stats SA (2019)*

## Data Collection and Analysis

A content analysis was the research method employed in this investigation. This was selected because it makes it possible to quantify specific topics (like IT governance disclosure) inside the chosen data collection (like integrated annual reports). A desktop analysis was conducted, using the integrated reports of the four metropolitan municipalities, which served as secondary data and were retrieved from the Internet. The self-developed research tool was used as a desktop evaluation to assess the IT governance of the South African metropolitan municipalities.

Results

The following section presents the results and findings to determine the South African metropolitan municipalities’ IT governance disclosure application with the King IV Code in the form of disclosures in the metropolitan municipalities’ integrated annual reports provided in the sample selected. This was done to meet the overall research objective, namely to investigate South African metropolitan municipalities’ IT governance disclosure application with the King IV Code.

Each of the findings are included below in Table 3, indicating the application of the King IV Code in terms of Principle 12 (IT governance disclosure).

**Table 3:** *Application of the King IV Code in terms of Principle 12 (IT governance disclosure)*

No	Question	Yes	No	Yes %	No %	Total %
1	Does the metropolitan municipality disclose in its integrated annual report that the responsibility for the governance of IT should rest with the governing body?	4	0	100%	0%	100%
2	Does the metropolitan municipality disclose in its integrated annual report that the governing body has approved a policy around employment of IT?	3	1	75%	25%	100%
3	Does the metropolitan municipality disclose in its integrated annual report that the governing body has delegated the responsibility of implementing and executing effective IT management to management?	4	0	100%	0%	100%
4	Does the metropolitan municipality disclose in its integrated annual report that the governing body has exercised ongoing oversight of IT management?	4	0	100%	0%	100%

5	Does the metropolitan municipality disclose in its integrated annual report that the governing body has exercised ongoing oversight of information for the following results?					
	The use of information to preserve and enhance the intellectual capital of the organisation.	4	0	100%	0%	100%
	Information architecture that supports confidentiality, integrity, and availability of information.	4	0	100%	0%	100%
	The protection of privacy of personal information.	4	0	100%	0%	100%
	The continuous monitoring of the security of information.	4	0	100%	0%	100%
6	Does the metropolitan municipality disclose in its integrated annual report that the governing body has exercised ongoing oversight of technology for the following results?					
	Technology architecture that enables the achievement of strategic and operational objectives	4	0	100%	0%	100%
	The management of risks associated with the acquisition of technology, monitoring and responding appropriately to technology developments, including capturing potential opportunities and managing the disruptive impact on the organisation and its business model.	4	0	100%	0%	100%
7	Does the metropolitan municipality disclose in its integrated annual report that the governing body has considered the need to obtain independent assurance on a regular basis about the effectiveness of the organisation's IT arrangements, including outsourced services?	4	0	100%	0%	100%
8	Does the metropolitan municipality disclose in its integrated annual report the following?					
	An overview of the arrangements for managing IT.	4	0	100%	0%	100%
	Areas of focus during the reporting period, including objectives, significant policy changes, significant acquisitions, and remedial actions taken as a result of major incidents.	2	2	50%	50%	100%
	Actions taken to monitor the effectiveness of IT management and how results were addressed.	2	2	50%	50%	100%
	Planned areas for future focus.	2	2	50%	50%	100%

**Source:** Authors' compilation

## **Analysis Of Findings**

All four sampled metropolitan municipalities embraced the requirement of disclosing IT governance practices in their integrated annual reports for the year 2021. There were no instances of partial application; municipalities in all cases either fully applied the requirements or no application at all, reflecting no mention of the specific requirement in terms of the satisfaction criteria.

All four (100%) indicated in their integrated annual reports that the responsibility for the governance of IT in the municipality lies with the governing body. There is, therefore, a greater possibility that IT risks within these institutions are being identified and addressed accordingly. The Institute of Directors of Southern Africa (2016) concurs with these findings, in that the expectations of stakeholders are no longer based on financial results only, but they also extend to covering social responsibility, transparency, and good IT governance which rests with the governing body.

However, only 75% of the sampled municipalities have developed and implemented an IT policy as guidance for the administration of IT aspects within the municipality. One municipality did not comply with this disclosure requirement, meaning that their annual report made no mention of the development and implementation of the IT policy, indicating there is a possibility that IT has not been prioritised in that they have not yet compiled a policy document to govern and direct aspects related to IT for the institution. Compliance requirements to satisfy this disclosure requirement include mentioning, in annual integrated reports, an approved policy that has been implemented by the governing body or an associated committee (Institute of Directors of Southern Africa, 2016).

All four (100%) of the sampled municipalities governing bodies delegated the implementation and execution of their IT strategy to one of their management committees and had appointed a Chief Information Officer (CIO) who is responsible for the management of IT in the municipality. Although the accountability of IT resides with the governing bodies in all these institutions, the operational management committees are closer to the operations of the business, and they are allowed to manage the day-to-day aspects relating to IT. This means management is able to identify risks and other challenges in real time and, therefore, can implement controls to address these risks timely and adequately. According to the Institute of Directors of Southern Africa



(2016), an organisation is deemed compliant with this disclosure requirement when the integrated annual report mentions the responsibility for the implementation of structures and processes for the IT framework resting specifically with management, and that an IT committee has been appointed to assist the board with the fulfilment of responsibilities related to the governance of IT. Lastly, it should also be stated in the integrated annual reports that the CEO has appointed a CIO who is responsible for the management of IT.

Following this, all four municipalities indicated that their responsibility in exercising oversight of the management of IT is satisfied by receiving regular updates from their delegated management committees on the ongoing management of IT, including any challenges faced in the day-to-day fulfilment of these responsibilities. This further indicates that the governing bodies of all these institutions regularly review the effectiveness of IT management in these institutions to identify challenges in the management of IT.

Apart from receiving regular updates from management committees, the committees also indicated to the governing body how information in the municipality has been adequately structured to ensure ease of retrieval and reference, and to ensure that the information is adequately protected from intruders. This also includes the Protection of Personal Information Act (POPIA) by a committee specifically formed to manage the security of organisational and third party information against unauthorised access and intellectual property (RSA, 2013). As part of regular updates, all four (100%) of the sampled metropolitan municipalities received feedback on technology-based projects that have been planned and/or implemented in the municipality. This includes feedback on return on investment for these projects.

All four (100%) management bodies of the institutions exercised appropriate oversight of the management of IT. This was done to ensure that the architecture, risks from purchased technologies, and possible technological advancements are monitored to respond appropriately. The protection of intellectual property is a crucial aspect of the governing body; a structure should be implemented to monitor this.

All four (100%) of the sampled metropolitan municipalities obtained independent evaluation and, therefore, assurance from audit firms on the effectiveness of their internal control systems. This means that their internal controls were evaluated to ensure that they are adequately and effectively set up to mitigate risks faced by the municipality. However, only two (50%) of the sampled municipalities fully indicated in their

integrated annual reports the key areas for the municipality to focus on in terms of IT. This can relate to changes in objectives, policy, strategic acquisitions, and lessons from major IT incidents. The other 50% made no mention of these aspects in their integrated annual reports, and therefore, it can be concluded that they do not have any plans or focus areas for IT in the near future.

## **Discussion Of Findings**

Without the widespread use of IT, it is difficult to carry out today's organisational processes. When it comes to accomplishing their organisational goals, public sector organisations that have not made the most of IT are falling behind the competition (Tiglias, 2014). The daily activities of public sector institutions, such as metropolitan municipalities, are significantly impacted by technology in the government or public sector. This is due to the fact that it is now a valuable tool for public sector organisations providing services to both citizens and non-citizens at the local, provincial, and federal levels of government (Dutrenit & Sutz, 2014).

Public sector organisations must show that they are in compliance with the IT disclosure obligations in order to demonstrate good governance. Applying governance appropriately and consistently helps these businesses become more efficient in their information management and accelerate IT integration with the rest of the organisation (Prasad et al., 2010; Soomro et al., 2016; von Solms & von Solms, 2004).

Several of the top four metropolitan municipalities completely comply with the IT governance and disclosure standards of the King IV code, according to the data displayed in the tables. This demonstrates that these towns have fully understood the IT requirements of the King IV Code and have implemented them in a fashion that satisfies those requirements.

## **Conclusion**

Regarding the municipalities' disclosure of their application with the King IV Code requirements on IT, it is promising to note that there are municipalities that have been responsible in the duties recommended to them by the King IV Code. This was achieved by a strengthened communication structure between the governing body and the management committees to which they delegated some of their duties, ensuring that the municipalities fully apply the principles of the King IV Code requirements. It is also important to note that the municipalities that made such disclosure in their annual reports also stand a better chance of applying the principles of the King IV Code with other disclosure requirements outside the King IV Code due to the structures put in place and high levels of control that have been implemented as a result of this disclosure.

Some municipalities were not fully applying the disclosure requirements of the King IV Code. This indicates that the governing body and the delegated management committees may require guidance on how to implement the recommendations made by the King IV Code successfully. For this empirical paper, guidance could benefit the governing bodies, especially on disclosure requirements two and eight which were not fully complied with. Inadequate application and transparency are factors that lead to inadequate governance in local government. The quality of governance is directly impacted by the efficiency of application control measures and the standard of information provided in financial statements.

Limitations are duly noted. This study focused on IT governance in their integrated annual reports, which are also available online. The data are, therefore, specifically limited to the top four metropolitan municipalities in South Africa. Future studies can focus on the disclosure of future IT plans in the integrated annual reports as part of IT governance disclosure.

## **Implications Of The Results**

The findings of this study may provide input for decision-making and policy at all levels of government. Policy and decision-making improvements should focus on developing mechanisms to ensure that these municipalities continue to earn the trust of their stakeholders, and therefore, it is imperative that they place emphasis on the failed

disclosure requirements to rectify them. This would lead to improved IT governance and corporate governance in general.

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