

Barriers and enablers of business intelligence system adoption in municipal revenue collection in Zimbabwe

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Abstract

Business intelligence (BI) has been widely adopted across various sectors, yet its implementation in municipalities, particularly for revenue collection, remains underexplored. This study assesses the effectiveness of BI systems in revenue collection, focusing on Gweru, Mutare and Masvingo municipalities, being some of the main municipalities in the country that have embraced digitalisation in their operations. The objectives include evaluating BI system effectiveness, assessing the municipalities' readiness for BI adoption, examining applications of BI in revenue collection, identifying benefits, analyzing challenges in implementation and developing sustainable revenue collection strategies. Using a qualitative research approach, data were collected through interviews involving 60 officials from the finance management personnel, IT staff and revenue collection departments from the 3 towns and document analysis. Thematic analysis revealed that the 3 municipalities have not fully embraced BI systems, primarily due to the lack of a fully established IT department, which is critical for effective implementation. Additionally, the need for user training on BI functionalities emerged as essential for maximising system benefits. Cost-related challenges were identified as significant barriers to adoption. This study underscores the importance of BI in enhancing municipal revenue collection, directly impacting public service delivery. For effective BI adoption, the 3 municipalities must prioritise establishing a comprehensive IT department and addressing training needs. A holistic change management programme is recommended to facilitate the transition to BI solutions, supporting broader sustainable development goals.

INTRODUCTION

Business intelligence (BI) is a vital Information and Communication Technology (ICT) tool that empowers organisations to optimise data utilisation through aggregation and analysis [12]. BI tools facilitate reporting and provide decision-makers with essential insights for evaluating and controlling organisational performance [35]. By implementing effective monitoring systems, municipalities can enhance accountability in public service delivery and better assess citizen needs and service patterns [15]. The necessity for innovative governance structures is increasingly critical in an information-driven society, enabling municipalities to deliver quality services. The importance of BI in managing revenue collection strategically cannot be understated, as it promotes democratic governance and improves access to municipal information [28]. However, the effectiveness of BI in local municipalities in Zimbabwe is often hampered by inadequate staff training and high setup costs, which limit the functionality of BI systems [10, 12]. Many municipalities operate with partially installed systems, leading to operational delays and inaccuracies that can disrupt cash flows. Additionally, centralisation has restricted the development of BI, forcing some municipalities to rely on outdated paperwork. To maximise the benefits of BI, local municipalities must overcome these challenges by investing in efficient ICT systems and modern hardware. A unified vision within finance committees is also essential for ensuring effective revenue generation and enhancing service delivery in response to growing population demands.

Currently, the data about revenue collection within Gweru, Mutare and Masvingo municipalities is in a spreadsheet and is manually sorted and updated [17]. This entails inefficiency and the data is prone to multiple errors since it is manualised. Previous studies on business intelligence in municipalities according to [12, 23, 28] show a lack of data quality, customer insight, transparency of data from one department to another and integrity. Problems such as high collection costs, fraud, underpayment and other revenue leakages have been highly flagged in municipalities operations [24]. As a way of providing smart municipal services, especially in revenue collection, business intelligence can be adopted to reduce all these cited problems and many more.

The study's objectives are to assess the effectiveness of business intelligence (BI) systems in revenue collection, with a particular focus on Gweru, Mutare and Masvingo municipalities; to ascertain the level of preparedness of the municipalities in adopting business intelligence in revenue collection; to examine the applications of business intelligence within the municipalities for revenue collection; it analyses the benefits and challenges of adopting business intelligence in revenue collection within the municipalities; as well as developing sustainable strategic revenue collection methods for the municipalities in Zimbabwe.

LITERATURE REVIEW

Theoretical Background

The development of data warehousing has primarily followed a "Top-Down" implementation approach [5, 22] define a data warehouse as a repository that integrates information for efficient querying and analysis, using extraction and analytical tools to model business operations and inform revenue collection strategies. Recent advancements in technology have significantly enhanced cash management practices [16]. Automated remittance processing is particularly vital, as it can drastically reduce transaction processing times [18]. Automated solutions, including business intelligence (BI) systems, streamline tasks such as billing, receipting, accounting and reporting.

BI is a technology-driven approach that aids decision-making for managers and executives [21]. [18] describes BI as encompassing data analysis and interpretation that generates actionable insights. This includes tools and processes that gather internal and external data, transforming it into information that fosters knowledge [3]. Historically, BI has provided insights into organisational performance through data collection and tabulation within data warehouses [34]. BI systems enable organisations to make informed decisions, leverage strengths, optimise marketing efforts, enhance customer relationships and improve revenue and profits [3, 27].

However, rapid urban population growth often exceeds local authorities' capacities for effective service delivery [20]. Failures in BI software, such as the PROMUN system, can lead to significant revenue losses, as operations may stall while [1] citing recovery [35]. High collection costs, fraud, underpayment

and revenue leakages are persistent issues in municipal operations. Thus, adopting BI software can address the challenges posed by outdated data collection systems in local municipalities.

Theoretical Framework

The Technology Organisation Environment (TOE) model proposed by [2] was used in this research. The TOE model is an organisational theory that explains how three different factors which are technological, organisational and environmental contexts all affect how technological innovation is adopted [1, 2]. The TOE model (Fig. 1) can help understand the elements that influence how a municipality accepts new technological breakthroughs like business intelligence, as stated by [14].

The adoption of business intelligence (BI) in municipalities is influenced by various technology-related factors, including perceived advantages, complexity, interoperability, IT skills and technological competence [7]. Effective BI implementation requires robust internet connectivity, sufficient bandwidth, advanced ICT infrastructure and a technologically skilled workforce. Security concerns also play a critical role in BI utilisation [36]. Organisational factors, such as municipal preparedness and public perception, are equally important. This includes the municipality's creativity, top management support, organisational culture and human resource qualities [7, 32]. Environmental factors encompass the broader ecosystem, including citizens, sponsors, service providers, regulatory frameworks and competitive dynamics [7, 32]. Access to qualified BI professionals and supportive infrastructure is crucial. Government regulation is vital for promoting BI adoption and enhancing inclusivity in municipal operations [9].

Applications of Business Intelligence for Revenue Collection

Business intelligence (BI) significantly enhances revenue collection in municipalities. For example, the Municipal of Chitungwiza employs the Land Adjudication and Development System (LADS) to manage and notify citizens about billing arrears [18, 33]. This system allows the municipal to track revenue losses in real-time and respond effectively, either by reallocating land or developing properties, thus maintaining efficient revenue collection [34]. Furthermore, BI supports decision support systems (DSS) in revenue management [29]. Municipalities must deliver services efficiently, which depends on institutional capabilities and financial resources [21]. However, challenges in tax collection often led to disparities between available and required funds [3, 18]. A robust revenue collection system is crucial for increasing available funds for development and ensuring accountability, ultimately driving economic growth [19].

Benefits and challenges of Adopting Business Intelligence in Revenue Collection

In the modern landscape, information is a vital asset for organisations, second only to employees [8]. Access to timely information is crucial, as customers' demand faster and more effective service [34]. To

remain competitive, companies must exceed customer expectations [8] Business intelligence (BI) is essential for providing policymakers and managers with comprehensive insights [12]. Research highlights several benefits of BI in municipalities [28]: Enhancing quality assurance within the organisation; Improving the efficiency of municipal services; Facilitating informed decision-making; Monitoring customer satisfaction in service delivery; Standardizing data access for citizens and Managing residents' contact points.

Despite benefits, there are also challenges faced. Many governments aim to establish sustainable revenue systems to manage public finances effectively [19]. However, mismanagement of public institutions remains a significant issue, leading to inadequate service delivery, especially amid a growing population [12]. Weaknesses in information and control systems exacerbate these challenges [30]. A primary obstacle in business intelligence (BI) adoption is the prevalence of incomplete and fragmented data [26]. The effectiveness of BI systems relies heavily on data quality; poor data can lead to inaccurate decision-making [35]. Integrating diverse data formats into a cohesive data warehouse is complex and requires robust IT governance [25]. Additionally, the complexities of implementing and operating BI systems can deter engagement from business users, who often view BI as a tool for technical experts [6]. Despite these hurdles, BI initiatives offer significant opportunities to enhance public sector operations and service delivery.

Sustainable Strategic Revenue Collection

The demand for innovation and progression is critical in both public and private sectors, prompting companies to showcase these qualities to senior management. Business intelligence (BI) solutions enhance competitive power, helping organisations distinguish themselves in the marketplace [34]. Additionally, BI improves understanding of consumer needs and communication, facilitating better customer relationship management [21]. It enables effective monitoring of positive and negative developments within the business, positioning BI as a strategic initiative for improving organisational performance [29]. Experts agree that BI significantly boosts financial performance. It provides quick answers to urgent business questions, aligns activities with corporate strategy, empowers employees, and enhances customer insights. Moreover, BI aids in benchmarking sales partners, identifying cost-cutting opportunities, and increasing productivity [8]. However, achieving strategic alignment through BI presents challenges. While formal techniques exist for gathering user requirements, understanding the information needs of business users remains complex. [27] highlight that users often struggle to see the potential of BI due to daily operational distractions. Establishing strong customer relations is crucial for municipalities to achieve sustainable financial success [21].

METHODOLOGY

A qualitative research approach is well-suited for exploring the complex dynamics of education and workforce development related to emerging technologies in Southern Africa. According to [4], this

approach allowed for in-depth understanding of experiences, perspectives, and challenges faced by various stakeholders. Key qualitative methods included online interviews with municipality officials, which were used to gather rich, contextualised data on assessing the effectiveness of the adoption of Business Intelligence (BI) System in revenue collection in Zimbabwe focusing on Gweru, Mutare and Masvingo municipalities. In addition, document analysis and literature reviews were utilised.

Interviews

Interviews were undertaken to collect exhaustive qualitative data from the chosen participants, after consent was sought and the purpose of the study was explained to the participants. The study adopted structured interviews whose formulation was guided by the study’s research objectives. The participants were selected through the purposive sampling technique, based on the researcher's knowledge of the population and the nature of the study's objectives [11]. This selection strategy depended on the researchers’ familiarity with the topic area.

The following officials were purposively selected to partake in the interview (Table 1):

Table 1 Participants	
Description	Number of participants
Revenue Collectors	15
Debt collectors	12
IT Personnel	12
Substantive IT students	9
IT Graduate Trainees	6
Management	6

Documents

The study made use of document analysis and review to complement the information sourced through interviews. The documents that were utilised include annual reports, financial accounts, personal documents, etc. were produced by managers, administrators, engineers, accountants, etc. in the 3 municipalities. In addition, online literature reviews were utilised. These gave the scenario in the country as a whole for the adoption of BI by municipalities.

Data Analysis

A descriptive approach was employed to analyse qualitative data regarding the use of business intelligence in revenue collection by the municipalities of Gweru, Mutare and Masvingo. This method is versatile and can be applied across different methodologies and epistemological perspectives.

RESULTS AND DISCUSSIONS

The results are a combination of the responses from the interviewees (revenue collectors, IT personnel and management), as well as document analysis and review.

Knowledge of Business Intelligence

Of all the participants, only people from the IT department fully understood the business intelligence concept. There is a certain level of understanding that if the business intelligence concept is to be adopted within the municipalities, it will have an impact on the organisation. This is not unique to the municipal employees. According to research by [31], some users can use business intelligence without fully understanding and comprehending its potential in their businesses. As expected, the IT department was fully cognitive of business intelligence and its relevance in improving revenue collection for municipalities. In any case, the IT department is perceived as the engine behind the business intelligence adoption initiative within the organisation.

Preparedness levels of Gweru, Mutare and Masvingo municipalities to adopt and implement business intelligence

All stakeholders involved in this research understood their roles and responsibilities and the need for business intelligence to ease workflows, especially in terms of revenue collection and the management of revenue streams. The municipalities were ready to adopt a sustainable solution that will enhance the way municipal business is run and consequently, improve revenue collection processes efficiently.

Applications and Benefits of Business Intelligence for Revenue Collection

By generating thorough reports, the participants believe that a business intelligence system can help in spotting revenue trends. This priceless information can be utilised to increase revenue and customer services. This is in line with the research by [12] (2015) which revealed that business intelligence improves the level of revenue collection within the public sector. The participants believed that service delivery is better equipped to make important judgments when they use the aforementioned precise reporting tools. Business intelligence can set up notifications regarding overall performance so that a business plan can be clearly described by evaluating productivity and income by the department. The municipalities can give useful information to stakeholders and retain a leadership position, by utilising current data. This concurs with [19] who assert that solving problems and reaching the best decisions in business is best done using business intelligence as a data-driven enabler.

The participants vehemently described business intelligence as a technique of bringing accurate reporting in terms of revenue collection. There was a general view that a business intelligence system can leverage the financial, operational, and revenue collection data of an organisation to provide reliable reports as written information or visual representations (charts, tables, or graphs). Business intelligent systems do both financial reporting as well as enterprise reporting to enable a company to gain visibility into its business and improve its financial performance.

Participants indicated that municipalities can also compare their strengths and shortcomings to those of other municipalities through data analysis, which helps them analyse market circumstances and spot trends. This implies that profitable prospects can be pursued while prospective difficulties are handled. As alluded to by [21], the adoption of business intelligence would help an organisation or municipality to gain a competitive advantage and sustain the organisation financially.

The participants suggested that business intelligence will help streamline diverse data sources, which will aid in overall operations and reduce management time spent looking for information. Additionally, the participants believed that revenue collectors will have access to accurate data which will enable them to consider the effects of their choices and, as a result, define both short- and long-term municipal objectives. [12] concurred and indicated that business intelligence will greatly help an organisation to gain lead information critical for the smooth operation of the entity, therefore analysis will help reveal areas that demand attention for improvement.

Largely participants within the finance department voiced that a business intelligence system might have the ability to be integrated to allow it to analyse interdepartmental transactions and identify any inefficiencies, losses, or waste that characterise many municipalities. As [12] indicated, public service delivery must be characterised by service improvement, and cost reduction and one way to optimally use the resources is by reducing waste.

One aspect that causes municipalities to lose more revenue is unaccounted revenue, which can get easily be siphoned by those with malicious intentions. Because of this, participants especially revenue collectors view business intelligence as a system that can track inventories for consumers who are defaulting and failing to pay for the services rendered by the municipalities in time for quality service delivery. [8] concurred and opined that indeed, business intelligent systems help businesses to streamline their operations, manage their inventory better, and eliminate guesswork.

Businesses can get client feedback in real-time by implementing business intelligence software, which helps them spot trends, identify problems, and provide better service to customers overall. Some IT personnel described why business intelligence would be a precursor to customer satisfaction, where they said the process of handling customers within municipalities can be laborious, especially when carried out manually. However, you may streamline the entire procedure into a single point by using business intelligence. With such a solution, one may relieve their customers of the burden of carrying documentation around to get their bills. If the receipts or bills are lost, things may become complicated.

This was concurred by [21] who suggested that municipalities must aim to satisfy customers so that they pay for their rates satisfactorily, resulting in increased revenue collection.

The Finance management interviewed, the revenue collectors, and the personnel from the IT department all collaborated on the fact that business intelligence will help an organisation grow its income, in this case, revenue collection through improved operational effectiveness, waste reduction, trend identification, and a boost in customer satisfaction. Municipalities would normally want to collect revenue which will help them improve their service delivery to the rate-payers. The revenue collection department described business intelligence as a way of reducing frustrating customers, which will adversely affect revenue enhancement efforts.

Challenges of adopting Business Intelligence in Municipalities

Most of the challenges to business intelligence adoption were highlighted especially by the IT department personnel. These include:

Integration of data from multiple sources is a big challenge. Many participants attributed this to the slow uptake of business intelligence within organisations.

Poor data quality/ IT personnel participants also raised issues to do with data quality as an issue in business intelligence adoption. The department voiced that applications for business intelligence can only be as useful as the data they are based on. It argued that ironically, though, one of the most crucial parts of business intelligence that is frequently disregarded is data quality yet the users would require access to high-quality data before beginning any business intelligence activity. As noted in the study, many businesses, however, are quick to rush and gather data for analysis and then disregard data quality or believe they can correct problems after resolving data collecting issues. This misconception may have its origins in a general lack of awareness of the value of effective data management inside the firm. [8] also raised the notion that the most critical entity within any business intelligence system is data and hence its quality determines the kind of decisions to be made.

Costs associated with business intelligence adoption. Another issue that participants indicated that organisations must handle was the cost associated with the installation of a business intelligence solution. It was suggested that since multiple systems must be integrated, business intelligence solutions are often resource-intensive. One IT personnel spoke of business intelligence software licensing costs that can be prohibitively high, and with a full business intelligence solution sometimes calling for several pieces of software, each requiring a separate software license, rendering the costs to be so high. He also raised the issue of costs and reasoned that the integration of these technologies is complicated, which raises the cost of human resources significantly as more people might be needed. Revenue collectors also argued that the technologies of a business intelligence system must be implemented by skilled IT specialists, and this can be quite expensive for an organisation. [13] concurred

that the installation and implementation of business intelligence solutions are costly to an organisation and require competent and skilled IT personnel to implement and maintain them.

Competent IT personnel. Another major issue in terms of business intelligence adoption is the human capital component. It was voiced that business intelligence has to be implemented by competent IT individuals with relevant business intelligence skills. It is a specialised skill that can expose an organisation.

User training and change management. Some of the issues highlighted by the IT department participants and finance manager was the fact that top management is also required to participate in skills training and change management initiatives related to business intelligence initiatives. The participants also acknowledged that recently built dashboards are enhanced with the ability to update themselves automatically and this is opposed to the time-consuming manual reporting processes from previous systems [12].

User resistance to adoption/ End customers generally take the simplest approach; they want to keep using conventional tools like Excel or SaaS services. In other words, they export the data and conduct the analysis elsewhere rather than using business intelligence tools to analyse the data for insights. End-user resistance to innovation leads to low adoption rates that are less than ideal and unanticipated usage patterns. To identify potential adoption challenges and problems with business intelligence solutions, logs of user activity and requests must be regularly reviewed. To encourage user acceptance, business intelligence teams should also strive to bring ongoing functionality improvements. Resistance to change is a major challenge for organisations as users are always skeptical of the new *modus operandi*, they are always connected and hinged to the old way of doing things. [8] viewed this as a cultural issue that is embedded within most organisations. Users are reluctant to change their ways unless their current practices are inconvenient and time-consuming. Additionally, a common error made by businesses is the notion that if they put the system in place first, users would come. This is the reason why it is recommended that when a business intelligence systems is being built, users are supposed to be involved from the onset.

Use of ineffective data visualisations and dashboards. Business intelligence dashboard or report is described as only useful if the data displayed is simple for end users to understand and navigate. However, it is argued that organisations frequently neglect design and user experience in favour of perfecting their business intelligence data and analytics capabilities.

The challenge of data silos. The IT department spoke highly of data silos. It indicated that silo systems are a regular issue in business intelligence. It is acknowledged that data completeness is a prerequisite if one wants to use business intelligence to hasten and enhance decision-making within a municipality. However, the participant pointed out that it is challenging for business intelligence tools to access siloed data with various security settings and authorisation levels. As they classified further, the participants opined that to get the desired results, business intelligence and data management teams must eliminate data silos and align their data. This was attributed as one of the most challenging assignments because

it requires a lot of work describing job functions. As a solution, it is advocated that if one starts with a solid data modelling layer and clearly defines each key performance indicator (KPI) and measure, this can greatly help to prevent this scenario. This is in line with [13] who argued that when information is siloed, it frequently happens that departments' sustainability initiatives overlap and that different departments record the same data. When the data is merged, this may result in data overlapping.

Strategic sustainable revenue collection methods for Gweru, Mutare and Masvingo municipalities

Analysis of the key themes that emerged from the participant's responses on the role of municipalities all coincides with one key issue. That is to say, municipalities must concentrate on revenue-management strategies that are focused on preserving revenue streams, enhancing revenue growth, and assuring the provision of high-quality services. This is also a sentiment shared by [21] who advised municipalities to devise such revenue management strategies that are sustainable. Based on the findings, the following are some of the strategies posited by the various participants:

Change management process and handling users' resistance to change. From the results, one way of ensuring business intelligence adoption in business is through a change management process. Implementing a change is one thing, but maintaining it was also a headache. Participants raised the fact that the municipalities can avoid user resistance to the business intelligence adoption trap by involving all the stakeholders at the outset of the project and throughout the execution phase. Users should specify their exact requirements for a business intelligence initiative within an organisation. Most users will be accustomed to and proficient with the system by the time implementation is complete. When their recommendations are put into practice, they also feel powerful. Consequently, the company needs high rates of user adoption to assure success. According to [12], organisations must establish strategies that encourage the introduction of innovative thinking. Therefore, it's crucial to first comprehend the root causes of resistance to change before developing a strategy of action.

Developing powerful data visualisations and dashboards. To create dashboards and reports with complex features but with a simple interface, business intelligence personnel must collaborate from the start with user interface designers. In self-service business intelligence environments, business intelligence teams should promote effective data visualisation design techniques. These procedures are especially crucial for mobile business intelligence applications running on tablets and smartphones with compact screens. Almost all participants from the three categories agreed that for business intelligence to add value within Zimbabwe municipalities, there is a high need for a competent IT department. They all indicated that the IT department is the engine to drive forth the idea of business intelligence. This is in tandem with [13] who opined that IT experts with the necessary expertise must provide significant support for a BI implementation. They advocated that IT specialists are needed for both the initial setup of the BI system and its ongoing maintenance. Therefore, before the implementation phase can start, skilled analysts and business intelligence professionals are also fundamental for the planning stage.

Document Analysis and Review

The qualitative research undertaken regarding the integration of Business Intelligence (BI) within the Gweru, Mutare and Masvingo municipalities provides essential insights into the relationship between education, workforce development, and emerging technologies in Southern Africa. The results indicate a notable difference in the understanding of BI among various stakeholders; while IT staff displayed a strong comprehension of the concept and its implications for enhancing revenue collection, revenue collectors and management exhibited a more limited understanding. This points to an urgent requirement for focused educational programs designed to raise awareness and knowledge of BI across all departments. Participants collectively recognised the potential of BI to optimise operations, enhance revenue collection processes, and improve customer satisfaction, underscoring its vital role in modern municipal governance. The methodological framework consisting of structured interviews and document analysis offered a thorough understanding of stakeholder perceptions and readiness, highlighting the importance of collaborative frameworks for effective BI implementation.

In contrast, the research revealed numerous obstacles that could hinder the successful implementation of Business Intelligence (BI) within the municipalities. The primary challenges identified encompass poor data quality, high implementation costs, and resistance to change among end-users, especially from the IT department. These challenges highlight the necessity of a strategic change management framework that includes stakeholder engagement from the beginning of the BI integration process. Additionally, the results emphasise the urgent requirement for proficient IT staff and well-crafted data visualisation tools, which are vital for optimizing the effectiveness of BI systems. In summary, although the potential benefits of BI implementation for Gweru, Mutare and Masvingo municipalities are considerable, a targeted strategy that addresses training, stakeholder participation, and technical challenges is essential to fully harness BI's capabilities in improving revenue management and service delivery.

CONCLUSION

The implementation of business intelligence entails a lot, it costs a fortune, it requires the infrastructure to run and support it and there is a need for personnel with the right skills and competencies. The municipalities had key individuals for the smooth running of the municipality but such a project would require a functional IT department that has many skilled individuals.

Business intelligence can greatly help a municipality in increasing its revenue streams. Business intelligence allows a business to have a close working relationship with all its stakeholders as they make use of an integrated platform to notify ratepayers of what they have to pay. The municipalities will greatly reduce the waste of resources on things that do not prioritise service delivery. It also helps a municipality to be in control of its inventory and the municipality will quickly get to know the products urgently in need for optimal service delivery.

Business intelligence was found to help businesses in recognising patterns and opportunities that will help strengthen the municipality's cause. These will greatly help sustain the municipality. The information needed anytime can be retrieved from a business intelligence system and be useful as and

when the need arises. One good thing that emerged as a result of the adoption of business intelligence within a municipality is the fact that the municipalities will make use of business intelligence systems to optimise its financial position and resultantly, reduce risks. One of the major benefits of business intelligence is customer satisfaction, which is fundamental in making sure that clients pay up their dues. Happy ratepayers take it as an obligation to pay what's due to them, for the success of the municipalities.

The study discovered a plethora of challenges that the municipalities face in the municipality's quest to adopt business intelligence. One of the major challenges faced is of integrating data from multiple sources. This has inhibited many organisations from fully adopting business intelligence. Another important inhibiting factor in the adoption of an intelligence system is the costs associated with the adoption and implementation of a business intelligence system because they are expensive to adopt and implement. The study also found out that a business intelligent system would require competent IT personnel to run and maintain it. Failure to hire the right human capital component IT-wise will lead to premature abandonment of business intelligence. This goes hand in hand with training which is fundamental in making sure that all users are well-versed in the business intelligence system.

In terms of crafting strategic yet sustainable solutions for revenue collection, the study revealed that business intelligence will greatly help alleviate revenue leakages within the municipalities. One strategic key move in adopting business intelligence is a well-crafted change management process as a way of handling user resistance to business intelligence systems adoption. This is mandatory as users will be accustomed to traditional systems and migrating to newer ones might prove to be a great challenge. Therefore, users are supposed to be involved at every stage of the adoption and implementation process.

RECOMMENDATIONS

For any IT initiative to come to fruition in any organisation, there is a need for buy-in from the top management. It is therefore important for the municipality's top management to be full advocates for digital transformation within the municipalities. Adoption of business intelligence requires a proper change management process to nullify any possibility of user resistance. Zimbabwe municipalities need to create working IT departments with a large pool of IT human capital and with well-defined roles. A fully-fledged IT department is a prerequisite in the adoption and implementation of viable IT solutions. Massive training is needed for the employees within municipalities to be well-versed in the business intelligence system. It is therefore prudent for the management within municipalities to prioritise developing their employees with the soft skills needed to run a business intelligence system. Data to be used by the business intelligence system must be of high quality to yield valuable information. The municipalities must therefore employ people who understand this basic concept.

Declarations

Informed Consent:

3. Each participant was requested to fill in an Informed Consent form as a way of consenting to voluntarily participate in the study and also being well informed about the study.

Consent to publish:

4. Not applicable.

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Author Contribution

CC did Introduction and background, the final compilation, worked on references and general editing
LT collected data and wrote methodology
IJM did the discussion
MNM did the recommendations, and the abstract
RN did the Document Analysis and the Conclusion
Then all authors reviewed the study

Data Availability

The data used in this study can be made available by the corresponding author on request.

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Figures

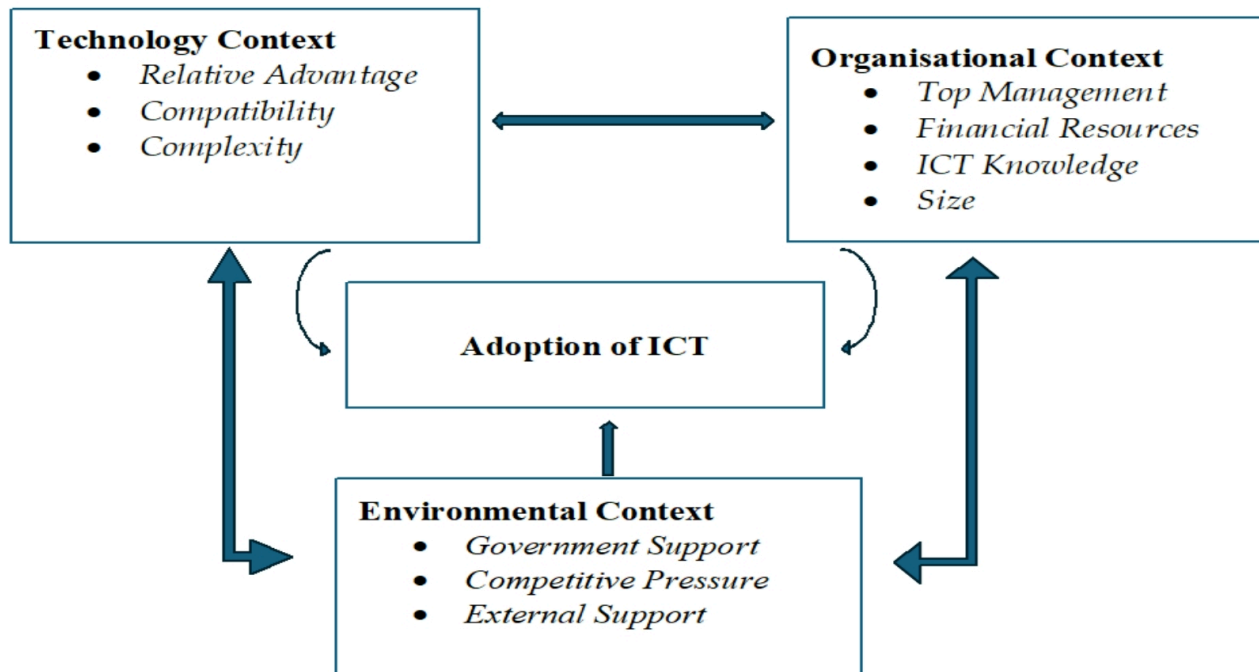


Figure 1

The TOE Model. Adapted from [2], and modified by authors (2026)

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