

Evaluation of Information Technology: The Case of Limpopo Legislature

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ABSTRACT Information and Communication Technology (ICT) is no longer merely a basic necessity. The role of ICT in driving social change and promoting best practices in public governance is the core theme of this paper. World-class organizations constantly invest in the latest technology to stay ahead of their competitors. This paper examines the level of ICT usage within the Limpopo Legislature's secretariat. The secretariat comprises 22 functional units with a total of 206 employees. A sample of 30 employees was selected using purposive sampling methods. Twenty successfully completed the questionnaire. The study found that sixty percent of the legislature's business transactions were done manually. The paper indicates clearly that the legislature has yet to invest in e-procurement. It recommends that the legislature accelerate initiatives to increase ICT usage among its employees. Finally, the paper recommends that top management accelerate the infusion of ICT in the entire legislature's service delivery value chain.

INTRODUCTION

This paper underscores the central role played by effective ICT systems in building a world-class provincial legislature. Zendler et al. (2015) observe that in today's knowledge economy ICT is the major catalyst of organizational effectiveness and process efficiency. The term 'ICT' refers to hardware, software, networks and media for the collection, storage, processing, transmission and presentation of information in voice, data, text and image formats. The term 'legislature' refers to the Limpopo Provincial Legislature, the law-making arm of the Limpopo Provincial Government. ICT is a key role player in connecting countries in what is known as the global village. Information systems are constantly evolving into ever more complex technologies that alter the physical boundaries that traditionally separated nations. Jensen observes that the 20th century witnessed the rapid proliferation of multifaceted telecommunications infrastructure, computing hardware and software, and data encryption technologies (Breznik and

Hisrich 2014). Whilst this century ushered in the first and second generation of ICT technologies, the 21st century is credited with giving birth to the Internet revolution. ICT aims to facilitate an enabling environment for the generation, dissemination and application of ideas. Diffusion and sharing of knowledge is enabled through open access to information and better coordination of knowledge. Chauhan (2015) maintains that a robust ICT system is a precondition for building a capable, efficient, sustainable and accountable organization. World-class organizations have incorporated ICT as an integral part of their business strategies. Matos et al. (2014) note that ICT has triggered revolutionary changes in the socio-economic framework of people and nations across the world. Knowledge and information are both catalysts for good provincial governance. Unlocking ICT's full value is a prerequisite to make provincial government more transparent and accountable to Limpopo citizens and other stakeholders. ICT can accelerate the diffusion and sharing of knowledge, information and feedback between the legislature and its internal and external stakeholders. A good ICT system can facilitate productive exchanges of knowledge and views between the legislature and the community it serves. Despite the acknowledged benefits of a vibrant ICT system to any organization, the World Bank Economic Review Report (2015) regrets that African governments are yet to fully integrate ICT in their governance systems and procedures. The

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report noted that ICT usage rate in Africa is relatively low compared with Europe. It argues that ICT illiteracy hinders third world governments' ability to implement winning ICT policies. The bottom line is that policymakers in Africa have little understanding of the concrete benefits ICT brings to their work (Chung- Fun 2015).

Purpose of the Study

The study evaluated the level of ICT usage in the Limpopo Legislature. Chauhan (2015), who has conducted extensive research on IT governance in Africa, maintains that ICT has had a profound impact in how governments deliver basic services to citizens or communities. Poor service delivery records within certain organs of state can be linked to poor investment in ICT infrastructure. Research has shown that high performance organizations, whether in the private or public sector, continually engage ICT to re-engineer business processes, decision information systems and administrative procedures. South Africa has three spheres of government, namely, national, provincial and municipal government. The Constitution requires all three spheres to deliver efficient and quality services in an accountable, transparent and effective manner. Experts agree that ICT is the foundation on which this mandate can be laid. Eric and Chong (2015) identified ICT as one tool state organs can use to enhance their service delivery mechanisms. The use of ICT has a positive impact on the way a government does business. The World Bank conducted a critical review of the role of ICT in governments in 2010. According to the World Bank Economic Review Report (2015), apart from reducing the cost of doing business, ICT can increase citizens' access to key government services. This paper may therefore form the basis for the legislature's top management to commission a strategic review of the current ICT strategy framework. Hence, it may promote structural changes in the way the legislature invests in ICT. It may also spark an academic debate on how far government agencies can go in their quest to integrate ICT in their day-to-day operations (Choi and Nazareth 2014).

Problem Investigated

As far as can be determined, the Limpopo Legislature has conducted very little research

on the usage of ICT. This paper examines current ICT usage in the Limpopo Legislature and makes recommendations to improve such usage.

Arising from the above problem, the paper poses the following questions:

- What is the level of ICT adoption and usage within the administrative structure of the Limpopo Provincial Legislature?
- What factors drive ICT adoption and usage within the administrative organ of the Limpopo Provincial Legislature?
- What role does ICT play in the effective implementation of the legislature's vision and constitutional mandate?
- What are the implications of poor ICT infrastructure for the business of the legislature?
- What proposals can be made to improve the legislature's ICT usage levels?

Literature Review

The literature review is inspired by the views expressed in the Department of Communications' strategic plan (Media Development and Diversity Agency 2016). A department communiqué states that "In 2010, the South African Government declared the Information and Technology sector as a top priority and adopted a declaration that called on all African countries to prioritize ICTs as a vehicle for driving Africa's Development Agenda" (World Bank Economic Review Report 2016). This communiqué summarizes the government's strategic intent in so far as the adoption of the ICT component of its overall business strategy is concerned. The strategic plan notes that the government is concerned by the widening digital divide largely affecting the rural population (Gong et al. 2015). Rural communities are under-resourced when it comes to ICT facilities compared with their urban counterparts. Critics of the plan cautioned that whilst this stance is applauded, it remains to be seen whether it can be practically translated into tangible deliverables. Some service delivery challenges can be resolved if public institutions adopt effective ICT models. Central to public sector reform is the ability of entities like the legislature to broaden the use and application of modern day ICT in its day-to-day business operations. The Internet Domain Survey sheds light on the reasons for the growth of ICT (Fenz

et al. 2014). It notes that the falling cost of mobile devices, rapidly increasing coverage of mobile networks, pre-paid tariffs, text-based communication options and the ever-increasing number of mobile applications have meant that those who were previously on the wrong side of the digital divide can now cross over (Edwards 2015). Mobile penetration rates in Africa have increased more rapidly than Internet or PC penetration rates. This offers important new opportunities to improve communication between government and its citizens, and the public service should capitalize on this situation (Yaokumah 2014).

ICT Usage in South Africa

South Africa climbed two places in the World Economic Forum's (WEF's) latest Global Information Technology Report, from 72nd to 70th out of 144 countries surveyed. It scored strongly for factors such as its regulatory, business and innovation environments, but poorly for other factors, particularly the quality of education (World Economic Forum Report 2015: 44). South Africa is one of only two African countries in the top half of the WEF's rankings. The other being Mauritius (55th). The World Bank Economic Review Report (2015) indicates that the BRICS economies continue to lag behind in the WEF's rankings, "suggesting that their rapid economic growth may be in jeopardy unless the right investments are made in ICT, skills and innovation" (Silic and Back 2014). It notes that Russia leads the BRICS grouping in 54th place, followed by China (seven places down at 58th), Brazil (up five places at 60th), India (68th), and South Africa (70th). In terms of ICT usage, South Africa ranked 33rd for business usage but only 81st for individual usage and a lowly 102nd for government usage (Limpopo Economic Development Agency 2016; Media Development and Diversity Agency 2016).

The ICT Usage Rate in Limpopo Province

A study conducted by the Development Bank of Southern Africa in partnership with the Wits Business School to assess ICT infrastructure in the North West, Free State and Limpopo Provinces found that insufficient ICT tools were available to the Limpopo government (Yaokumah 2014). While it is the only province that has made progress in preparing a business case for a

broadband network, implementation has stalled. The study revealed that the province is facing opposition from the State Information Technology Agency (SITA) (Media Development and Diversity Agency 2016). It was alleged that the provincial government and SITA were jostling for turf, with SITA arguing that the rollout of a broadband network is part of its mandate (Masson 2015). A search of several papers, journals and libraries revealed that there is a paucity of empirical research on ICT usage in the Limpopo provincial government. This study therefore examines the use of advanced ICT tools in the Limpopo Legislature as well as the status of current ICT infrastructure in this province (Limpopo Economic Development Agency 2016).

ICT Usage Barriers

The greatest obstacle to wider ICT usage is high costs. ICT is perceived to be expensive, and governments do not have the resources to upgrade existing ICT facilities to match international standards. The strong relationship between ICT costs and the quality of service delivery calls for the restructuring of the current ICT usage pricing structure in South Africa. The second most severe obstacle to ICT usage is network problems and unreliable infrastructure (Media Development and Diversity Agency 2016). African countries suffer from poorly maintained and inadequate fixed line networks. Lack of awareness and knowledge of ICT is attributed to be the barriers to ICT usage. Schroeder (2014) argues that a lack of knowledge of the strategic use of ICT may prevent public sector entities from achieving their business goals. The barriers to the use of ICT tools by public sector entities are summarized as weak network infrastructure, insecure ICT-driven transactions, legal uncertainties, perceived high setup costs, an ever changing ICT environment, and geographical barriers (Limpopo Economic Development Agency 2016).

METHODOLOGY

The study adopted a qualitative research design, which Parker (2014) defines as an inquiry based on distinct methodological traditions that explore a social or human problem. In this case, low ICT usage was identified as the main

social concern of the study. A qualitative design enabled the researchers to detect the key challenges confronting the legislature in building the internal capacities of its ICT value chain. It also facilitated an assessment of the legislature's readiness to embrace the 'paperless office', where business transactions are conducted through purely electronic media (Guercini 2014).

Research Method

The study adopted the *phenomenological* research method. This enables researchers to answer their research questions as validly, objectively and accurately as possible. A *phenomenological* method involves an in-depth, systematic examination of a real-world life experience or event. The *phenomenological* method facilitated easy analysis and interpretation of the research data using descriptive and explorative themes. Finally, this method presented an opportunity to trace and focus intensively on ICT usage dynamics in an environment that is peculiar to the legislature (Hair et al. 2015).

Population and Sampling

The study was restricted to the Limpopo Provincial Legislature. The legislature's ICT value chain was the main subject of the study.

Respondents were selected from a population of 206 employees drawn from the legislature's 22 functional units. Of these, 160 certified users of ICT facilities were targeted. By employing purposive sampling, questionnaires were distributed to 30 ICT users. Fifteen (15) junior employees and five senior employees provided individual accounts of their experience of using the legislature's ICT resources. The sample frame consisted of both male and females ICT users. The sample also cut across all age groups within the 22 functional units (Guercini 2014).

Data Collection Method

Using a survey instrument, interviews were used to gather primary data. Respondents were interviewed in the comfort of their offices. This environment was deemed less intimidating. The major challenge in managing the interviews was stimulating and maintaining an atmosphere of objectivity. An interview schedule was used to manage all interview appointments. A structured

questionnaire was used as a survey instrument. Closed-ended questions dominated the questionnaire. A Likert scale question format was used. Zhong and Zhang (2015) observe that this format makes it easy to code, capture, analyze and report research findings. Respondents were instructed to indicate the most appropriate of five answers "Strongly Agree, Agree, Neutral, Disagree or Strongly Disagree". The questionnaires were distributed personally or via email depending on the location of respondents. An interview schedule guided the administration of the questionnaire. Two days after distribution, respondents were telephonically reminded to fill in the questionnaire. The researchers personally collected the completed questionnaires. On average, each respondent spent a maximum of 60 minutes filling in the questionnaire. The Statistical Package for the Social Sciences (SPSS) was used to code the collected data on the computer for analysis (Hair et al. 2015).

OBSERVATIONS AND DISCUSSION

The key findings of the study are aligned to the research questions as outlined below.

What is the Level of ICT Usage at the Limpopo Provincial Legislature?

The study found that ICT readiness within the legislature was lacking. Eighty percent of the respondents confirmed that most of the legislature's ICT resources are either outdated or obsolete, while seventy percent agreed that the legislature's ICT usage was low compared with similar organizations. Financial constraints were cited as the major reason why the legislature lagged behind in ICT investment (Limpopo Economic Development Agency 2016).

What Factors Drive ICT Usage at the Limpopo Provincial Legislature?

The data shows that unfilled ICT vacancies, inadequate ICT training facilities and the lack of an ICT governance policy hinder ICT adoption within the legislature. On the other hand, eighty percent of the respondents blamed weak top management support. A lack of key ICT skills and the absence of ICT usage incentives were identified by sixty-five percent of the respondents as the main constraining factors.

What is the Role of ICT in the Legislature?

The respondents indicated that ICT plays a vital role in coordinating the legislature's business. They noted that forty percent of the legislature's business transactions are now conducted by means of ICT tools.

What are the Implications of Poor ICT Facilities?

Ninety-five percent of the respondents concurred that ICT is the cogwheel of the legislature's service delivery matrix. "ICT magic" is the reason why organizations dominate or outflank others in the market place (The Economic Development Department 2016).

What Proposals Can Be Made to Improve the Legislature's ICT Usage Levels?

The respondents made various proposals to narrow the prevailing ICT usage gap within the legislature (Schroeder 2014). Ninety-five percent of the respondents felt that management should consider introducing incentives to retain crucial ICT skills, while eighty percent stated that management should allocate adequate financial resources to enable the ICT department to revamp outdated ICT facilities. A further seventy-five percent suggested institutional linkages between the ICT value chain and higher education institutions, and seventy percent of the respondents recommended that the legislature offer scholarships or bursaries to employees that are keen to advance their ICT careers. Regular ICT audits were cited by sixty percent of the respondents as the first remedial step in narrowing the current ICT usage gap within the legislature. Finally, fifty-five percent of the respondents felt that activities and educational campaigns to enhance ICT should be stepped up (Masson 2015).

CONCLUSION

This paper has argued for an approach that integrates key ICT processes and activities with the service delivery charter of an organization. Studies have shown that an integrated approach to ICT governance yields countless benefits. The Limpopo Legislature should go all out to catch up with prevailing trends in the globalized ICT environment. Further quantitative or hypo-

thetical research is necessary to investigate the strength of the relationship between current service delivery inefficiencies and the poor ICT investment culture in the public sector. It is recommended that the legislature adopt an integrated ICT model to resolve current service delivery challenges in the province.

RECOMMENDATIONS

The following recommendations are made.

- *Adoption of an E-Procurement Approach:* In order to achieve shorter turnaround times, improve real-time processing and enhance "time to market" leverages, it is recommended that the legislature rollout an e-procurement facility. This would also improve stakeholder interactivity and feedback on critical supply chain issues.
- *Linking Service Delivery Issues to the ICT Function:* Management is urged to support efforts to realign the legislature's ICT activities with certain service delivery indicators. ICT should be seen as an integral component of the service delivery matrix.
- *Staff Incentive Scheme:* It is recommended that top management implement an incentive scheme to address the high staff turnover in the ICT directorate. This would also improve turnaround times, which would immensely benefit citizens and stakeholders.
- *Staff Development Program:* A program should be established to up-skill the current ICT team. This could go a long way in effectively addressing the skills shortage experienced by the ICT directorate. If the legislature is to build an effective ICT directorate, more investment should be made in organisational learning initiatives.
- *Increased Support from Top Management:* It is crucial that the legislature's Executive Committee offer maximum moral and budgetary support to finance initiatives to strengthen the capacity of the ICT value chain.

LIMITATIONS OF THE STUDY

The study focused on one institution, the Limpopo Provincial Legislature. The legislature's ICT value chain was the case site of the study. Therefore, other Provincial Legislatures were excluded. A comparative study that examined

other Provincial Legislatures' levels of adoption and usage of ICT would have been ideal. Financial and time constraints prevented such a study. This could be an area for further research.

Finally, the conclusions and recommendations arrived at in this study are only applicable to the Limpopo Legislature and to a limited extent to other spheres of government. A broader study could produce clearer generalizations and conclusions on the levels of adoption and usage of ICT.

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