

## An Assessment of Opportunities and Challenges of e-Government Implementation in Zimbabwean Cities: Case of Masvingo City

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### ABSTRACT

The growing adoption of eGovernment by countries worldwide is a testimony to its role as an effective tool for public service delivery. The paper examined the potential eGovernment opportunities available in the context of the Zimbabwean cities, challenges encountered in e-government implementation, as well as remedies to overcome implementation and adoption barriers. The analysis of opportunities and challenges was anchored on the Technology-Organization-Environment Theoretical Framework [20]. The findings of the study revealed that Zimbabwe is still lagging behind in utilizing information and communication technologies for delivering government services online, G2C, G2B, as well as G2G all included.

**Key words :** *eGovernment, G2B, G2C.*

### 1. INTRODUCTION

Electronic government (e-government) arose in the late 1990s as a way through which the public at large and governments partake in the new knowledge landscape for better service delivery [8], [10]. Over the years, developed and developing countries have been making significant efforts towards e-government development and implementation [7]. However, a positive trend for e-government adoption has been seen in developed countries as opposed to developing countries that showed a negative trend. It is against this background, that this study seeks to assess the opportunities and challenges of e-government for the Zimbabwean public sector.

#### 1.1 Problem statement

Literature has revealed that e-government implementation has remained lower than anticipated and highly challenging in developing countries as compared to developed countries [1], [2]. Zimbabwe is not an exception; the government and the public are not fully utilizing the available technology to ensure maximum participation in government activities. This lack of public participation limits the level of communication between government and the general public. This has a devastating impact on service delivery because participatory

democracy would be non-existent. As a result, there is need to produce a report on why the public is not fully participating in e-government initiatives, and to highlight possible mitigations which will enable satisfactory e-government implementation in Zimbabwe.

#### 1.2 Research Objectives

- ❖ To outline eGovernment opportunities or platforms the Zimbabwean Government can employ to fulfil the country's national ICT policy of computerizing public offices.
- ❖ Identify factors which are hindering the full scale implementation of eGovernment initiatives in Zimbabwe.
- ❖ Highlight ways in which the Zimbabwean government can counter barriers to effective eGovernment implementation.

#### 1.3 Significance of the Study

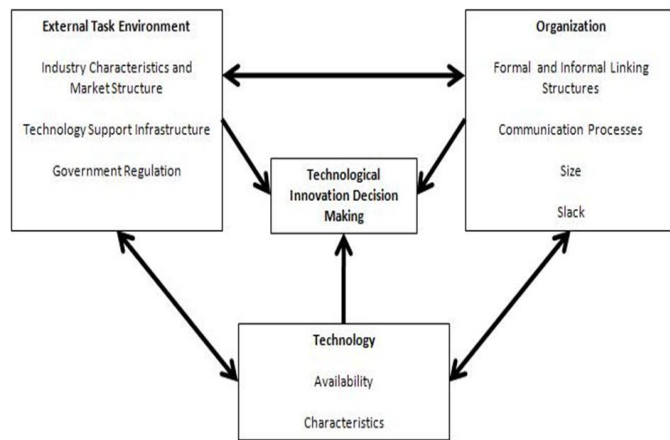
The study contributes by creating a framework that aims to improve information access for citizens through e-government. The study will prove useful to various stakeholders within the Zimbabwe government, such as government and public sector management authorities as they will appreciate the benefits of implementing eGovernment.

### 2. LITERATURE REVIEW

This section will firstly discuss the theory to be used. The literature section considers the technological requirements for ensuring effective accessibility of government services by citizens. The literature further assesses organisational factors that impact citizens' willingness to participate in e-government. Finally, the study explores the environmental factors that prohibit citizens to participate in e-government and what needs to do be done to overcome them.

#### 2.1 Underlying Theory

This research study will refer to the Technology-Organization-Environment (TOE) theoretical framework (Figure 1) proposed by [20] as the basis for studying the aforementioned research objectives.



**Figure 1:** The Technology-Organization-Environment Theoretical Framework (Adapted from [20])

According to [20], adopting, implementing and using technological innovation is dependent on three inter-related constructs: (1) the technology being diffused; (2) the organisation that is diffusing such technology, and (3) the environment in which the technology is being diffused. Whether organisations identify the necessity for, search for, assess and accept a new technological invention is influenced by these factors. Technological context describes the available and relevant technologies available to the organisation both internally and externally in terms of equipment and processes, whilst the organisational context outlines some organisational characteristics or resources, such as size, the quality of human resource, amount of slack resources, and the level of interaction among members.

In e-government this involves the quality of public sector employees in terms of IT knowledge and experience, and how they can interact together in IT related activities. On the other hand, the environmental context explains the environmental conditions in which the firm conducts its business, its competitors, the economic conditions, regulatory regimes etc. [5], [15], [4], [6]. According to [16], the environmental context plays an important role in assimilation of e-government and it usually consists of factors such as ICT readiness, financial institution support, and government policy.

## 2.2 Technological factors for effective accessibility of government information by citizens

[13] assert that in order for e-government to be a success, the required technological infrastructure should be made available. In a study done in Quebec, [9] identified that despite the fact that services are offered online in Quebec, there was lack of technological resources, lack of high speed Internet access, lack of technological infrastructure, as well as expensive Internet access. Therefore, if these barriers are not addressed, then citizens' use of online services will not be

realised. [12] put forward that mobile applications provide an interface where citizens can access government services more easily. [18] have a similar view articulating that mobile phone applications enable government agencies to be citizen centric and more accessible, particularly to those who favour mobile devices or who cannot access public services by means of the Internet. Thus, mobile phones enable a convenient way of citizen participation at the most convenient times.

## 2.3 Organisational factors impacting citizens' willingness to participate e-government

[19] believe that organisational factors are of extreme importance and must be taken into consideration in any organisational innovation adoption. These include, amongst other things, human resources, citizens' awareness of e-government, and resistance to e-government. [19] posit that the key resource aimed at organisational development is human resources. Incompetent employees may hinder the smooth running of an e-government process because it requires advanced IT skills. [14] noted that educated people are more likely to use the Internet and visit government websites than uneducated people who might not interact with e-government services as they are computer based. Therefore, this suggests that citizens need to be empowered with technology education in order to close this gap. According to [3], one of the barriers toward e-government success is due to lack of awareness programmes that promotes e-government advantages and benefits. Thus, if information access by means of e-government is to be realised, people need to be made aware of e-government initiatives from the initial stage and be convinced to make use of this service.

## 2.4 Environmental barriers hindering citizens' participation in e-government

According to [17], regulatory/legal and political issues are among the common environmental barriers that seem to impact citizens' willingness to participate in an e-government initiative.

## 3. RESEARCH METHODOLOGY

The study used a quantitative approach and hence answers were described and analysed in order to give effect to the scientific solutions needed. The survey technique was used to collect data from the respondents to understand and predict some aspects of the behavior of the population of interest. In this study the summary of results obtained from the respondents were - presented by means of descriptive statistics where graphs were incorporated. The population of this study consisted of government officials from the Masvingo Provincial government as well as the Masvingo residents. Thus study had a target population of 50 government officials and Masvingo residents. To identify the participants, random sampling which is one of the probability sampling was used and a sample of 130 was used.

#### 4. RESULTS

Result from the study were as categorized and presented as follows:

##### 4.1 E-governance infrastructure

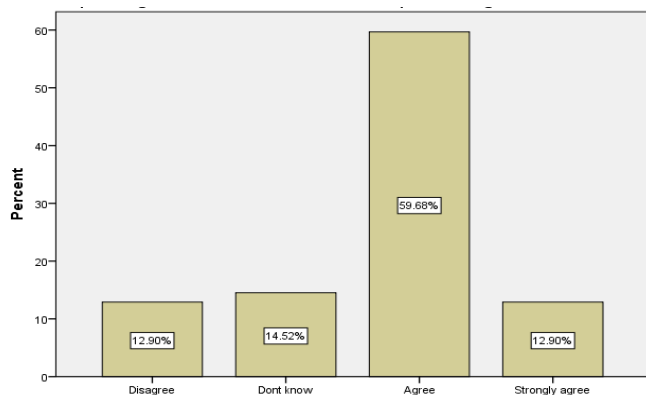


Figure 2: ICT infrastructure availability

Results show that approximately 60% of the participants agreed that there is poor e-Governance infrastructure at the provincial Government offices. This is not in line with literature. [11] held that a government is an enormous, vast and difficult institution, whose processes and strategic focus could be very much improved by the well focused application of computer Technologies to support improvements in output, management effectiveness and eventually, the value of services accessible to society. If the technology utilised by government entities is untrustworthy (including being not accessible, being incorrect, being in jeopardy of unauthorised access or not being able to convey the service) or unable to keep up with nationwide and worldwide trends in the IT environment, the entity is at risk. [13] assert that in order for e-Government to be a success, the required technological infrastructure should be made available. Therefore, if these barriers are not addressed, then citizens’ use of online services will not be realised.

##### 4.2 Computer Literacy

More than 50% of the participants agreed that the levels of computer literacy are very low both at the provincial government offices and the general public.

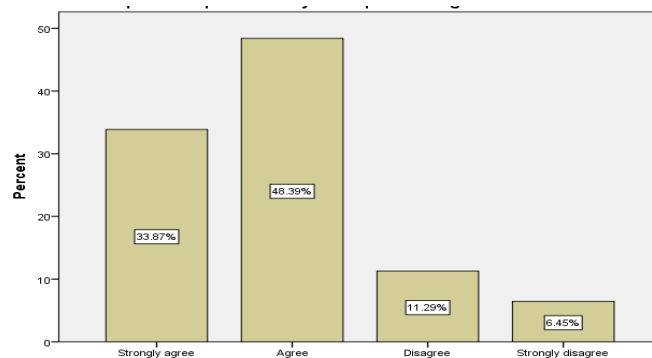


Figure 3: Computer Literacy

As highlighted by [19], organisational factors must be taken into consideration in any organisational innovation adoption. These include, amongst other things, human resources, citizens’ awareness of e-government, and resistance to e-government. Incompetent employees may hinder the smooth running of an e-government process because it requires advanced IT skills.

##### 4.3 Regulatory Inadequacy

Results show that 57 % of the participants indicated that there is regulatory inadequacy in the field of e-governance in Zimbabwe and 31% disagreed. 12% of the participants were neutral. This shows that the majority of the participants agreed that there is regulatory inadequacy in the field of e-governance in Zimbabwe.

##### 4.4 Internet Accessibility and Affordability

Most of the participants indicated that internet connectivity is not always there and the costs are just too high especially to the general populace. A few that highlighted that internet is always available and affordable most of them were government officials. The government needs to make sure that there is internet connection at affordable rates so that e-governance becomes a success. To be successful and well-organized, the IT department entirety should be aligned with the business requirements and objectives of the company, thus including architecture such as hardware, networks and software.

##### 4.5 Public Opinions on eGovernment Implementation and Adoption

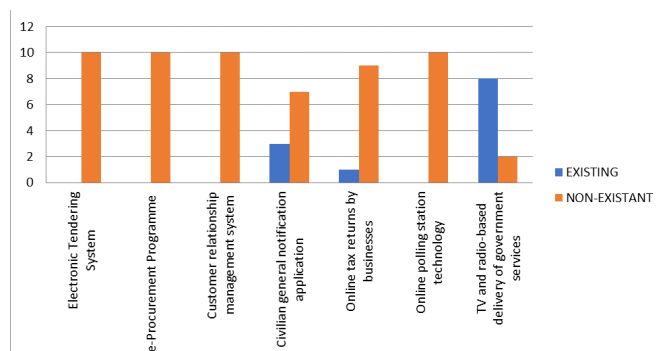
The results in table 1 shows that more than 50% of the public disagree that the government offices offer services via call centers whilst the majority concur that electronic trading saves time and money than the traditional way of doing business. The majority also agreed that eGovernment improves transparency as well as providing vast amount of information required by the business sector. The results also highlight that

**Table 1:** Public Opinions on eGovernment mplementation and Adoption

OPINION	STRONGLY DISAGREE	DISAGREE	NUETRAL	AGREE	STRONGLY AGREE
Government offices offer services via call centers	24	56	13	6	1
Electronic trading saves time compared to the traditional ways of doing business	0	0	23	64	13
Online services reduce operational and transport costs	0	0	32	45	23
E-Government provides a greater amount of information that business needed	20	17	0	63	0
E-Government creates a more transparent business environment when dealing with government.	0	0	3	80	17
Application processes conducted online are responded to faster than manually presented ones	27	33	0	20	30
Web-based service delivery is greatly accepted by the public	10	15	30	50	5
There is digital democracy in Zimbabwe	40	50	4	6	0
Citizens are provided with adequate details of public sector activities on government websites	33	46	0	21	0
The reengineering of government processes to accommodate use of ICT is a necessity.	2	3	4	81	10

a significant number of participants still are not sure if they can accept online services. They would prefer the manual way of interacting with the government services.

**4.6 Opportunities that can be Employed (Existing and Non Existing)**



**Figure 4:** Existing and non-existing Opportunities for eGovernment

Ten (10) ICT personnel were given the questionnaire on existing and non-existing opportunities to implement eGovernment. Results show that of the 7 proposed ICT platforms which can be used for G2C and G2B initiatives, the city administrators are only making use of just three platforms. TV and radio broadcast of services and announcements are the only platforms the city has adopted in its endeavors.

**5. CONCLUSIONS**

The study found out a number of issues that help achieve the set objectives. From the results, it showed that there is poor ICT infrastructure installed to witness a successful implementation of eGovernment. Infrastructural aspects remain the main challenge for eGovernment implementation in Zimbabwe; it poses as the most significant barrier to the provision of government services and transactions online. Lack of required ICT skills also were found to be among the barriers to implementation of eGovernment. Most of the public and government staff need trainings on ICT skills in order to participate in the implementation of eGovernment. Regulatory inadequacy in the use ICTs in Zimbabwe was also suggested as another hindrance to proper implementation of eGovernment. Tendering and procurement processes, customer relationship management as well as the taxation

processes were among the areas identified where the government of Zimbabwe can implement electronically. Benefits of implementing eGovernment were also identified among them was increase on transparency on business processes.

## 6. RECOMMENDATIONS

The following recommendations were as a result of the study especially to the government:

(i) From the study it was noted that civilians are reluctant to use existing eGovernment platforms in fear of loop holes in data security, lack of anonymity in contributions made, and other attributes to do with privacy and confidentiality in the use of ICT systems. To curb this, the government has to first address policy issues concerning use of eGovernment systems. Processing of eGovernment principles and functions requires a range of new rules, policies, laws and legislative changes to address electronic activities including electronic signatures, electronic archiving, and freedom of information, data protection, computer crime, intellectual property rights and copyright issues. Dealing with eGovernment means signing a contract or a digital agreement, which has to be protected and recognized by a formalized law, which protect and secure these kinds of activities or processes.

(ii) The government must build systems that exploit existing infrastructure. For example, in much of the government units, there is no access to the internet. Proposing a theoretic framework for eGovernment adoption in the public sector without properly installing the right physical infrastructure to support the adoption of eGovernance will not yield anything meaningful as far as eGovernance implementation is concerned.

(iii) The government should establish an internal call centre to establish a healthy G2C and G2B relationship first, as a foundation for further eGovernance systems. For a start, there is need for procurement of services and infrastructure to support a reliable call centre. The government has to work on team development, where human personnel are trained to man the centre 24/7 for G2C, G2B and G2G online transactions. When this is established more systems can be put in place and basing on the earlier set ups civilians will adopt future proposals.

(iv) The study posits an awareness campaign among civilians of any existence and or benefits of eGovernment platforms to curb the limitation of masses not adopting implemented systems. The masses have to be educated about such systems and their concerns addressed via policies.

(v) The government has to ensure installation of state of the art technologies to curb the technological gap between them and the cooperate world. As for the digital divide between the elderly and young, implementation has to be adopted and run

with those who can access the systems since ensuring ICT literacy and compliance among the civil population is too big a task for the government as a sole body.

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