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## The Factors Affecting Electronic Government Procurement (EGP) Implementation in Zambia's City Councils: A case of the Lusaka City Council

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### Abstract

The Lusaka city council was used as a case in the research to identify the factors that hinder or facilitate the successful implementation of E-GP. A non-probability sampling technique, namely purposive sampling, was used, using a sample of 80 personnel and suppliers of the Lusaka city council. The research used a quantitative and qualitative approach with a descriptive research design. Data was gathered via a questionnaire and interview, and descriptive and inferential statistics were used to assess it. The results show that the benefits were confirmed by both the suppliers and the end users. They all stated that E-GP has reduced the time and cost of doing business for both bidders and procurement entities (PEs). It has also allowed equal opportunity to all bidders because it involves the free download of bidding documents, and bidders are only charged at bid submission. In the past, there was too much corruption, but the automation of the publication of tenders and contract awards has led to greater transparency in the procurement system. The results also show that personnel working in departments related to E-GP are not receiving the required support from superiors in using the e-government procurement system. The study further indicates there is limited reliable, affordable, and fast internet, which in turn is affecting e-government procurement at Lusaka City Council. Implementing e-procurement is faced with the most prominent challenge of poor internet at the institution. This study recommends, among other things, enhancement of the system and improvement of organizational culture to allow others to be part of the process. In addition, LCC should invest heavily in the system if they want to reap the benefits of its existence in the future.

**Keywords:** *Electronic government procurement, organizational factors, e-procurement strategies*

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### 1. Introduction

The procurement process is worldwide used by many organizations to obtain value and as best competition

practice. The techniques utilized generally determine the length of the procurement process (Phiri, 2019). In Zambia, the Public Procurement Authority (ZPPA) mandates all public institutions to use electronic government

procurement as stipulated in Procurement Act No. 8 of 2020. Procurement transactions vary according to the type of organization or business, its design, and its culture (Chen, 2021). EGP implementation in the public sector is impacted by external environmental factors, organizational factors, and technological factors (Ngosa, 2019).

Developing countries are focusing on e-procurement systems as a means to reduce corruption by opening competition in government procurement processes to the public (Makua, 2014). In the recent past, Zambia has seen a rise in the number of procurement officers and government officials who have engaged in or indicated some intent for procurement fraudulent activities; some have been fired, brought to court, and cut off from their working positions (Newspapers, auditor general's reports). These actions would be eliminated by ensuring that public organizations implement EGP as guided by law (PPA 2020).

Following the government issuance of the social cash transfer and CDF, an upward trend towards purchasing inputs and other raw materials from outside most public organizations (4th Quarter 2022 reports) will be expected. It is at this stage that implementing electronic procurement in local councils becomes significant because it provides an environment for value-for-money procurement (4th Quarter 2022 report). In a study performed by Ngosa (2019), the results indicated that since the inception of the E-GP system, many government ministries have not fully adopted it, especially in rural areas.

The implementation of the e-GP system in an organization is affected by the organization's internal culture and external environment support. This is so because if technology is not accepted by the employees and has no support from top management, the probability of it being implemented is low (Daud et al., 2017). There should be external support from all stakeholders for an organization to successfully adopt and implement e-government procurement. External environments include completion intensity, partner or supplier readiness, and government regulatory and legal boundaries (Mgidlana, 2014).

The electronic government procurement system, as a tool, has marked a new era in public procurement and is in line with the government's overall policy to digitize its operations and improve the effectiveness and efficiency of the tender process. The system has transformed public procurement as it upholds integrity, embraces transparency, promotes equitable access to public tenders, and contributes to sustained socio-economic growth. In 2016, the Republic of Zambia, through the Zambia Public Procurement Authority (ZPPA), carried out the e-GP framework to guarantee straightforwardness, responsibility, and proficient utilization of public assets (ZPPA, 2018 Report). Years later, with an unsatisfactory response to the invitation, the authority issued Circular No. 7 of 2021 on the compulsory usage of the electronic government procurement system,

which is in line with Section 16(1) of the Public Procurement Act No. 8 of 2020.

There has been much emphasis on the implementation of government procurement in public institutions, simply because public sector procurement is large and complex, representing between 15% and 35% of the gross domestic product, and the cost of transactions is estimated to account for 45% of GDP in a modern economy (Chen, 2021). Most organizations have not achieved success in the implementation of e-procurement due to the number of complexities involved in implementing this tool (Weerakkody et al., 2019).

### 1.1. Problem Statement

The traditional procurement style has broadly lost prominence due to its vulnerability to inefficiencies and ineffectiveness in providing quality goods, work, and services. It serves as a hurdle to social and economic growth, equitable access to public tenders, and the integrity of the procurement process. In 2016, the Zambian government, through ZPPA, rolled out the implementation of E-GP by all public institutions as an approach to curbing most of the problems presented by the manual procurement process. The government has invested huge sums of money in this innovation due to its perceived benefits. Other than driving technology into the economy, the E-GP system is known to reduce public spending and save on transaction time. It is associated with the promotion of transparency and efficiency (Jennings, 2001).

It has, however, been over ten (10) years since the launch of the ICT policy and over five (5) years since the launch of e-government procurement in Zambia, and public institutions are still not fully using the E-GP system in addition to its enactment as in line with Section 16(1) of the Public Procurement Act No. 8 of 2020 (Ngosa, 2019). The cause of the slow rate of implementation of the E-GP system in many public institutions, especially city councils, is unknown (Ngosa, 2019). According to Phiri (2019), E-GP implementation at Lusaka City Council is rated at over sixty percent (60%).

## 2. Empirical Literature review

There are various structures through which local governments conduct procurement. In a study on e-procurement system adoption in local governments (Chen, 2021), it was examined how local governments' procurement complexity and structure interact to influence the adoption of e-procurement. The research findings were that a centralized organizational structure enhances the likelihood that local governments adopt e-procurement to manage the increasing complexity of procurement. On the other hand, coordinated structures are less likely to adopt e-procurement systems as they alternatively rely on intra-organizational collaboration and information sharing embedded in the structure to cope with the increasing

procurement complexities such as the number of policies, criteria used by task-doers to evaluate a task, etc. (Lee, 2009).

In government procurement, the formal application of multiple policies that are pursued simultaneously to a government procurement system increases the complexity of decisions. The study, however, recommended a post-adoption phase examination. This is to ascertain the implementation of e-procurement systems since their adoption does not necessarily result in effective or extensive utilization. The procurement implementation process can be incremental and challenging (Moon, 2005; O'Neill, 2009). Local governments were urged to incorporate technology into their strategic plans to avoid incurring financial waste and political interruptions due to failed implementation.

A study by Masudin (2021) was conducted to determine the performance impact of e-procurement adoption in Indonesian manufacturing companies. The study consisted of four variables: top management support, information quality, implementation of e-procurement, and company performance. The results of this study supported the acceptance of three hypotheses and indicated that top management support had a significant effect on e-procurement implementation. Other results showed that information quality had a significant effect on e-procurement implementation, while e-procurement implementation had a significant effect on company performance (Masudin et al., 2021).

A study by Rotchanakitumnuai (2013) in Thailand aimed to "present the factors of E-GP that can create good governance in government procurement through e-auction." This was done through a survey with Thai public managers who were involved in e-government procurement. The sample size was 169 professionals, representing 67 government agencies. It was found that there were five factors that enhance governance procurement. These relate to the transparent e-procurement process, committed public managers and political officials, honest vendors, and specific policies and regulations. A transparent e-procurement process was found to have a positive effect on good governance practices, increasing cost effectiveness and accountability, and decreasing collusion among vendors. It was concluded that e-GP is not a guarantee of enhanced governance and reduced corruption. It requires a dedicated commitment to strong rule enforcement and penalties to achieve successful implementation of e-government procurement" (Rotchanakitumnuai 2013).

A study by Chimutengo (2016) was conducted to identify factors hindering the adoption of electronic procurement systems in public sector organizations in Malawi using a descriptive research design. Through probability sampling, a sample size of 25 was selected from the population of 201 PEs, from which data was collected using a structured questionnaire. The study achieved an 89% response rate. It established that poor supplier preparedness, lack of end-user

training, resistance to change, users' lack of knowledge on the benefits of the system, lack of political will and a proper legal framework, lack of employee motivation, and low or lack of data security were the major factors impeding the adoption of electronic procurement systems in public sector organizations in Malawi.

A paper based on a literature review of the papers and documents relating to e-government investigated the challenges to the successful implementation of e-government initiatives in all 49 African countries in Sub-Saharan Africa (SSA) for the period 2001 to 2012 (Nkohkwo & Islam 2013). The results showed that ICT infrastructure, human resources, legal framework, Internet access, the digital divide, and connectivity were among the most common themes on the challenges to the successful implementation of e-government initiatives in Sub-Saharan African (SSA) countries. These themes were further grouped into six different aspects abbreviated as IF-POSH (infrastructural, financial, political, organizational, socio-economic, and human). Among these six aspects, infrastructural and human aspects were the most important challenges that the respective governments in SSA needed to address prior to adopting implementation strategies (Nkohkwo & Islam 2013).

A study on challenges facing adoption of electronic procurement in Kenya's public sector (Makau, 2014) indicated that 95% of respondents specified that technology was one of the challenges facing adoption of e-procurement in public institutions. Adoption requires well-established IT infrastructure and reliable internet (Karplus 2007). Other factors identified included public procurement regulations and employee competence, indicating that these two factors were directly linked to technology adoption. Government regulations affect e-procurement adoption in that they have limits on the level of technology adopted, while employees lacking ICT knowledge may not support e-procurement adoption as they perceive it as a threat to their jobs. The study indicated that the majority (74%) of the respondents attested that managerial commitment was a challenge in e-procurement adoption. Respondents were of the view that top management lacked strategies to manage change.

The researcher in a related journal further considered factors influencing the adoption of electronic procurement from selected government agencies. Sixty-three percent (63%) of the respondents agreed that top management influences the adoption of e-procurement, implying that commitment, authority, support, and direction from top management are essential for the overall success of e-procurement adoption in the Kenyan public sector. The results also reviewed threats associated with the adoption and implementation of e-procurement, and the most prominent were the security risks, which accounted for 82% of the respondents.

Other factors included user acceptance, ease of use, and staff training. According to Kabwela (2019), personnel in

most government institutions are ready to embrace electronic procurement implementation reforms, largely due to the perceived ease of use and usefulness of the electronic system. In this study, Makau (2016) concluded that e-procurement success in Kenya required continuous enhancement at both the implementation stage and the latter stages of the adoption stage with high commitment levels and support from top management, and the threat to the security of procurement data was a major factor inhibiting e-procurement adoption in public institutions owing to the restrictions in the amount and nature of information to be shared with third parties. This contributes to the complexity of procurement in the public sector, which eventually reduces efficiency (Chen, 2021), making the balance between transparency, protection against unauthorized data disclosure, ensuring the authenticity of the data source, and the impact of the disclosure of the procurement process ambiguous.

### 3. Empirical Literature review

E-government Procurement is an innovation still in its infancy with not-well-developed theories. To cope with this, ‘fragmented adhocracy’ theories are imported and adopted from other, more mature fields, as prescribed by Whitley (1984). The research was based on the Unified Theory of Acceptance and Use of Technology (UTAUT) alongside the Theory of Transaction Cost Economics (TCE) and the Technology Acceptance Model.

#### 3.1. The Unified Theory of acceptance and Use of Technology (UTAUT)

The theory variables include performance expectancy, effort expectancy, social influence, and facilitating conditions. Additionally, the variables of the theory consider the moderation of other factors that moderate the relations between various constructs and intention to use. The moderators are gender, age, experience, and voluntariness of use (Venkatesh et al., 2003). The theory of transaction cost economics, on the other hand, is a theory of how business transactions are structured in challenging decision environments (Ketokivi and Mahoney, 2021). It is chiefly concerned with transactions that are complex in that they are recurring, subject to uncertainty, and involve commitments that are difficult to reverse without significant economic loss. In this sense, TCE is a theory of the firm.

#### 3.2. Technology Acceptance Model

(TAM) model is in its simplicity since it has only two constructs, namely, “perceived usefulness” and “perceived ease of use,” for predicting the extent of adoption of new technologies at the individual level (Efremenko, I. N., et al., 2017).

There are various barriers that affect e-procurement adoption in the public sector, which include social-cultural barriers, technical barriers, economic barriers, political barriers, organizational barriers, and legal and regulatory

barriers (Zaed, 2012).

The study identified four constructs, as follows:

*Perceived environmental supports (PES)* represent supports from relevant external environmental factors. In this case, the environmental factors consider level of commitment to the system, legal system implications, IT infrastructure, and the willingness of the end user to accept the system. There should be external environment support from all stakeholders for an organization to successfully adopt and implement e-government procurement, as these can negatively or positively influence e-GP implementation at the organization. There should be external environment support from all stakeholders for an organization to successfully adopt and implement e-government procurement (Mgidlana, 2014) (Tran & Huang, 2014).

*Perceived organizational support (POS)* represents support related to organizational factors such as organization structure, culture, resources, IT systems, commitments, and external business relationships that could hamper support for their decisions to adopt e-procurement.

*Perceived managerial support (PMS)* represents support related to organizational factors such as top managers’ perceptions, awareness levels, leadership style, and changes in management ability, which supports my research objective. Knowledge of an innovation provokes perception, which in turn influences attitude and actual response. It is therefore important that employees receive support and direction from top management, which is essential for the overall success of e-procurement adoption in the Kenyan public sector (Makau, 2016; Morgon, T.N., 2021).

*Perceived Technological Support (PTS)* represents the top manager’s positive attitude. This is evidenced by the commitment and authority top management exhibits when they make decisions pertaining to e-procurement (Makau, 2016; Tran & Huang, 2014). Proper and efficient application of the four constructs to the implementation of e-government procurement is likely to produce positive results. These four relationships are shown in the diagram below.

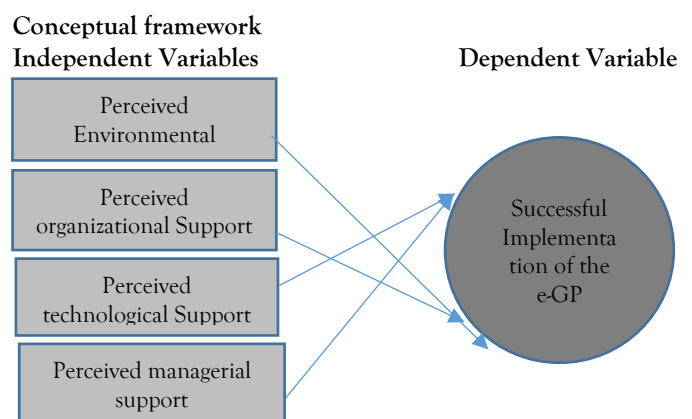


Figure 1: The conceptual framework.

## 4. Research Methodology

### 4.1. Research Design

The descriptive research design was adopted to enable the researcher to simply attempt to identify what factors influence the adoption and implementation of the electronic government procurement system in Zambia.

The aim of the study was to determine factors influencing the implementation of e-government procurement at Lusaka City Council. This study adopted a descriptive research design (known as phenomenology) to explore opinions, attitudes, and behaviors and explain how the population perceives the implementation of EGP in city councils and other issues pertaining to this topic. Descriptive research design, as defined by Kombo and Tromp (2016), is a type of research design that aims to obtain information to systematically describe a phenomenon, situation, or population.

### 4.2. Study Population of the study

In this study, the population comprised of city council members of staff from headquarters, specifically those from the procurement department, human resource management department, engineering department, finance department, and planning department, was selected using the following criteria: Inclusion criteria: 185 male and female adults aged 18 to 65 from the procurement department, human resource management department, engineering department, finance department, and planning department.

### 4.3. Sample and Sampling procedure

To ensure the inclusivity of subjects in the population, all departments in the organization were included in the study. The inclusion criteria were male and female adults aged 18 to 65 from all departments who are directly involved in the procurement of goods, works, or services.

The study adhered to the qualitative sampling recommendations that have been made by scholars on sample size selection for qualitative studies. A sample of 80 individuals was used in this study. The sample size was arrived at using the Raosoft sample size calculator. This sample size was calculated from a sample size of 185 from a population of 185, with a 90% confidence level and a margin of error of 6%.

For this study, a non-probability sampling technique, namely purposive sampling, was utilized to select the participants of the study, while snowball sampling was utilized for selecting informants.

### 4.4. Data Collection

The study used both primary and secondary data. Primary data was obtained through self-administered questionnaires with both closed-ended questions administered to key respondents, while in-depth interviews were conducted with the sampled informants. Secondary data extracted from newspapers, online research articles, books, reports, bulletins, online blogs, and in-house newsletters was used in the study. The in-depth interviews were conducted with the aid of a structured topic guide and

notebooks. Variables were defined, data entered, and then analyzed in the system.

The results were presented under the four broad categories: perceived environmental support factors affecting E-GP implementation at Lusaka City Council, perceived organization support factors affecting E-GP implementation at Lusaka City Council, perceived managerial support factors affecting E-GP implementation at Lusaka City Council, and perceived technological support factors affecting E-GP implementation at Lusaka City Council, in line with the research questions and objectives.

In order to ensure that the research results are in conformity with the reliability requirements, the author ensured that all the statements were biased towards the objectives of the research but crafted from different perspectives. The research instrument for this study was considered reliable because of its alpha level of .73. Table 1 shows a summary of the reliability test results.

Table 1: Reliability Statistics

Cronbach's Alpha	N of Items
.730	36

### 4.5. Data Analysis

The data generated was processed through thematic analysis. This process required the researcher to carefully read recorded data until they were familiar with the content (Smith et al., 1999; Ilukena M. et al., 2023). Next, the scholar interpreted the text, commenting on points of concentration while beginning to summarize and deduce it. At this stage, themes were established from the ideas and notes collected. At every stage, the researcher would refer back to the original transcription to check that the text supported the developing themes.

Finally, a table of themes was produced that clearly referred to the original text, showing how the themes relate to it. However, the researcher also used quantitative analysis through SPSS to help establish relationships between variables and to fully describe the findings. Variables are defined in the system. Data was entered and then analyzed in the system.

The description of the data was done by means of determining representative characteristics such as frequencies, percentages, and means. The data was organized and presented by means of frequency distribution tables and graphs.

## 5. Results and Discussions

The results are presented in four broad categories: Perceived environmental support factors affecting E-GP implementation at Lusaka City Council, perceived organization support factors affecting E-GP implementation

at Lusaka City Council, perceived managerial support factors affecting E-GP implementation at Lusaka City Council, and perceived technological support factors affecting E-GP implementation at Lusaka City Council are in line with the research questions.

**5.1. Demographic Characteristics of Respondents**

A total of eighty (80) people took part in the study; however, only 93.7% of them returned the questionnaire since five of them did not show up.

**Age and Gender of Respondents**

The results of this study revealed that both genders were represented; the majority (52.3%) were females, while their male counterparts were 47.6%. Their age groups were structured as follows: 18-26, 27-35, 36-44, 45-53, and over 53 years. There were five (5) respondents who were aged between 18 and 25 years, whereas the age group between 27 and 35 years was represented by 38 (58.4%) of the total study sample. The age group between 36 and 44 years comprised 14 participants, representing 21.5%. In addition, there were eight (8) participants, or 12.3%, in the age group between 45 and 53 years, while no participant was above the age of 54 years.

**Educational Levels of Respondents**

The responses from key target participants who were personnel from the Lusaka city council revealed that there was one (1), 1.5%, who possessed a grade 12 certificate, while 12 (18.4%) were diploma holders, 38 (58.4%) were bachelor’s degree holders, and 14 (21.5%) attained a master’s degree. There was no one who reported to have had other qualifications other than the ones mentioned. The results of the education level of the majority of the workers at Lusaka City Council working with the EGP system indicated that the workers were well educated to offer relevant information about the subject under study. The educational credentials of the key target respondents were as shown in figure 5.1.

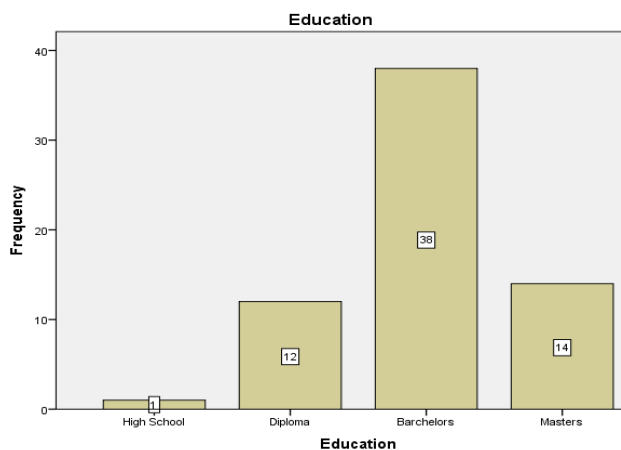


Figure 2 Summary of Educational Levels of Respondents  
Source: field survey (2023)

Knowing the number of years participants had worked for the Lusaka city council was necessary for this research because it had the potential to probe respondents’ pre- and

post-EGP systems at the council. The information obtained from participants revealed that 20 (30.8%) had worked for less than 5 years, while 31 (47.7%) had worked between 6 and 10 years. In addition, 12 (18.5%) reported having worked for Lusaka City Council for 11 to 15 years. One (1), or 1.5%, had work experience of between 16 and 20 years, while those who claimed to have worked for more than 20 years were one (1), or 1.5%.

The results of the participant’s work experience were summarized and presented in Table 2 below.

Table 1: Summary of Participants’ Work Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0-5 Years	20	23.3	30.8	30.8
6-10 Years	31	36.0	47.7	78.5
11-15 Years	12	14.0	18.5	96.9
16-20 Years	1	1.2	1.5	98.5
Over 20 Years	1	1.2	1.5	100.0
Total	65	75.6	100.0	

Source: field survey (2023)

**Perceived benefits of using the e-government procurement system at Lusaka City Council**

Thirty-eight percent (38.4%) of the respondents agreed to having used E-GP on a daily basis, while 19% claimed to have used it on a monthly basis. Other respondents stated that they used it on a weekly basis (14%) and a quarterly basis (3.5%). The variation in use was determined by the various department’s respondents belonged to.

In the quest to probing perceived benefits of using the e-government procurement system at Lusaka City Council, the study sought levels of satisfaction in using the system. According to the responses from the key target respondents, the majority (49.2%) were moderately satisfied with the system, 40% were highly satisfied with the system, and only 1.5% and 2.3% had very low and low satisfaction, respectively. Table 3 shows responses on the levels of satisfaction of key target respondents.

Table 3 levels of satisfaction

Measure	Frequency	Percent	Valid Percent	Cumulative Percent
Very low	1	1.2	1.5	1.5
low	2	2.3	3.1	4.6
Moderate	32	37.2	49.2	53.8
High	26	30.2	40.0	93.8
Very high	4	4.7	6.2	100.0
Total	65	75.6	100.0	

This research further sought an evaluation of the effect of e-government procurement systems on the use and

quality of services provided by Lusaka City Council to the general public. The results show that the majority (66.1%) graded the e-government procurement system as positive, while 32.3% were neutral and 1.5% graded it as negative.

Service quality was rated very well by most informants, with most stating that it reduced transaction time and costs and provided equal participation opportunities to all bidders. Provided a free download of the bidding document, and bidders were only charged at bid submission.

**5.2. Perceived environmental support factors affecting E-GP implementation at Lusaka City Council**

The regulatory framework, supplier engagement, legal system, and political involvement were all examined in this study. Table 4 has summarized the responses to the given statements concerning perceived environmental support factors affecting E-GP implementation at Lusaka City Council.

Table 4 environmental support factors

Statement	SA	A	N	D	SD	M	SD
Regulatory framework affects e-government procurement at LCC.	19	29	15	2	0	2.00	.810
Supplier involvement affect e-government procurement at LCC.	12	23	22	8	0	2.40	.932
Legal system affects e-government procurement at LCC.	17	20	26	2	0	2.20	.869
Political involvement affects e-government procurement at LCC.	27	21	10	4	3	2.00	1.11

External environment support was probed by asking suppliers if they also receive support from procuring entities or responsible authorities (ZPPA) in the process of using E-GP. Seven (7) out of ten (10) of the suppliers confirmed having received either direct or indirect support.

**5.3. Perceived organization support factors affecting E-GP implementation at Lusaka City Council**

Perceived managerial support factors affect E-GP implementation at Lusaka City Council.

Table 5 summarizes the responses to the given statements concerning perceived environmental support factors affecting E-GP implementation at Lusaka City Council.

Table 5 environmental support

Statement	SA	A	N	D	SD	M	SD
Organizational Structure affect e-government procurement at LCC.	8	11	37	6	3	2.76	.948
E-government procurement system is aligned with the goals and objectives of LCC.	13	31	19	2	0	2.15	.775

E-government procurement system has improved transparency and accountability at LCC.	25	22	18	0	0	1.89	.812
Lusaka city council fully adopted and implemented the e-government procurement system.	14	21	24	6	0	2.33	.923
Organization culture affect e-government procurement at LCC.	9	17	29	9	1	2.63	.944
all council personnel are willing to embrace technological change and adapt to new working methods	10	18	30	7	0	2.52	.885
Procurement Plan affect e-government procurement at LCC.	12	29	20	3	1	2.26	.871
Ethical Behaviors	12	17	34	2	0	2.40	.825

**5.4. Perceived managerial support factors affect E-GP implementation at Lusaka City Council.**

The results indicate that the majority were neutral about the lack of a project champion affecting e-government procurement at Lusaka City Council, while the other twenty (20) disagreed with the assertion. In addition, the majority (20) agreed to resistance to change affecting e-government procurement at Lusaka City Council. This implies that end users might not be in support of the E-GP system. The results also indicated 25 (majority) disagreed with the statement that a lack of leadership skills affects e-government procurement at Lusaka City Council. This pattern in response means there is no leadership gap at Lusaka City Council, especially related to the implementation of the E-GP system.

Results showed that most respondents disagreed with the assertion that employees receive the required support from superiors in using the e-government procurement system. This implies that employees are likely to face many challenges that can affect E-GP implementation in a negative way. The majority were neutral to the statement about whether training and employee competence affect e-government procurement at Lusaka City Council. When it comes to implementing e-procurement in public purchasing institutions, human competence to use information and communication technology (ICT) is crucial. The usage of ICT and how it will alter company practices must be made clear to employees.

Managerial support factors were analyzed by subjecting respondents to some extent to agree with statements. The results are presented in table 6.

Table 6: Managerial support factors

Statement	SA	A	N	D	SD	M	SD
Lack of project Champion affect e-government procurement at Lusaka City Council	1	9	27	20	8	3.38	.9302

Resistance to change affect e-government procurement at Lusaka City Council	2	20	19	16	8	3.12	1.08
Lack of Leadership skills affect e-government procurement at Lusaka City Council	0	12	17	25	11	3.53	.985
Employees receive the required support from superiors in using the e-government procurement system.	11	15	14	25	0	2.81	1.13
Training and employee competence affect e-government procurement at Lusaka City Council	4	15	29	16	1	2.93	.889

**5.5. Perceived technological support factors affect E-GP implementation at Lusaka City Council.**

Results on technological support factors affecting E-GP implementation at Lusaka City Council indicate that the majority (25) agreed to the statement that data security and authenticity affect e-government procurement at Lusaka City Council, while (27) also agreed that the procurement system is characterized by high levels of security and data protection. The results further indicate that some respondents disagreed with the assertion that reliable, affordable, and fast internet affect e-government procurement at Lusaka City Council. Table 7 shows the results of technological support factors affecting E-GP implementation at Lusaka City Council.

Table 7: technological support factors

Statement	SA	A	N	D	SD	M	SD
Data Security and Authenticity affect e-government procurement at Lusaka City Council	13	25	17	6	4	2.43	1.10
Procurement system is ascribed with high levels of security and data protection.	9	27	26	3	0	2.35	.779
Reliable, affordable and fast internet affect e-government procurement at Lusaka City Council	10	16	19	17	3	2.80	1.13

The study also asked respondents to rate the reliability of the e-government system in terms of uptime, performance, accessibility, and general reliability since the resulting advantages of e-government can be less corruption, higher transparency, higher comfort, a development in income, and a reduction in costs. The responses show that the e-government system was reliable in terms of accessibility (49.2%) and uptime (49.2%), but not reliable in terms of performance (20%). These results imply the system might need some improvement in order to function according to its intended purpose.

Other challenges experienced included the absence of suitable infrastructure, such as dependable internet connectivity, poor internet at the office, site buffering, a lack of technical know-how, and process glitches, but the most prominent challenge was poor internet at the office when implementing e-procurement. According to this study, e-procurement systems cannot operate correctly or consistently and may cause delays, mistakes, or fraud if these fundamental needs are not met.

The results are shown in figure 3.

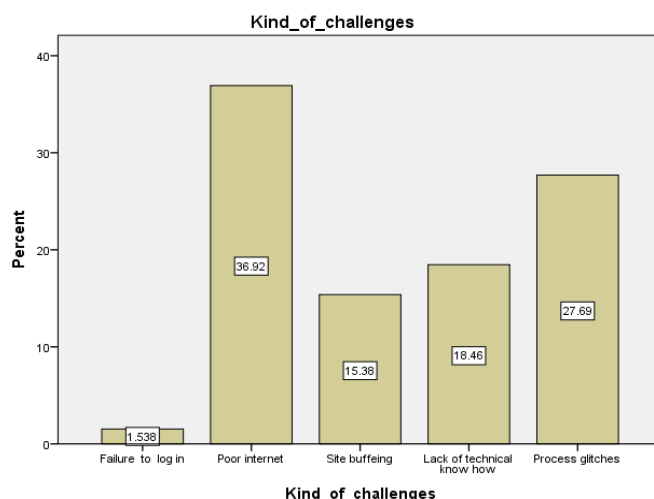


Fig 3: challenges experienced

**6. Summary, Conclusions and Recommendations**

**6.1. Summary of findings**

This study is in tandem with the views of Kauffman and Mohrardi (2004), who noted that e-procurement systems benefit both the buyer and supplier sides by improving tasks for all involved in the procurement process. The current study discovered that cost minimization is a major driver of the growth and adoption of e-government procurement. It is also believed that there is more benefit to be gained by using the platform for sourcing than for transaction management (Kalakota and Robinson, 2000). It is possible to reduce buying and service costs through product standardization.

The discovery of this study from the side of both the end user and the suppliers agrees with the findings of Gunasekaran and Ngai (2008), who noted that e-procurement is perceived as reducing purchasing time and streamlining the purchasing process (Tanner et al., 2008). Time savings and process efficiency in purchasing can be achieved by automating the management of information and decision-making (Barlezzaghi and Rochi, 2005), simplifying the purchasing process (Gunasekaran and Ngai, 2008), and eliminating intermediaries such as brokers and dealers (Kheng and Al-Hawamdeh, 2002).

**Perceived environmental support factors affecting E-GP implementation**

The current research discovered that the majority agreed that the implementation of E-GP was influenced by the

regulatory framework. This resonates with the suggestion of Meehan and Bryde (2011), who noted that the effective implementation of e-procurement practices is determined by the level of compliance with procurement regulations. The purpose of the e-procurement governance framework is to drive behavior towards achieving the e-procurement objectives of the government. The current study argues that the e-procurement regulatory framework defines and allocates accountabilities, communications, standards, major practices, and institutional responsibilities for public procurement. A procurement regulatory system designed and implemented in line with the framework complements attaining the expected outcomes.

#### ***Perceived organizational support factors affecting E-GP implementation***

Electronic government procurement implementation at the council had been influenced by employees not receiving the required support from superiors in using the e-government procurement system. Lack of top management support, or will, will hinder the adoption of e-procurement systems. Top management's strong will can stimulate change by communicating and reinforcing values through an articulated vision for the organization to their employees (Thong, 1999).

#### ***Perceived technological support factors affect E-GP implementation.***

From the study results, this is a vital requirement in EGP implementation since the majority agreed to the statement that data security and authenticity affect e-government procurement at Lusaka City Council, while other respondents agreed that the procurement system is characterized by high levels of security and data protection. These findings are in line with the E-GP guidelines as provided by the Zambia Public Procurement Authority (ZPPA), which assures data security, such as physical security, at the data center through biometric access control and CCTV surveillance. Strong system and authentic use of Internet and industry standards for networks, protocols, algorithms, technologies, and data formats such as HTTPS and SSL certificates, and the confidentiality and integrity of data both in transit and while stored. Encryption, audit trail for each transaction, and network security: Firewalls, intrusion prevention, anti-virus software, electronic signatures: A technical tool to authenticate data and disaster recovery (D.R.) and backup sites (ZPPA, 2018).

The findings also show that several respondents disagreed with the claim that Lusaka City Council's e-government procurement is impacted by dependable, inexpensive, and fast internet. The results of the current study are consistent with those of Mutale et al. (2017), who noted that Zambia has issues including inadequate internet connectivity and restricted access to dependable and economical internet services. The implementation of e-GP systems in Zambia may be problematic as a result of these issues. Furthermore, the results of the current study went against those of Mulenga and Chileshe (2018), who believed

that a lack of stakeholder involvement was another issue that would prevent the introduction of e-government procurement systems in developing nations like Zambia.

The challenges identified in the current study contradict those discovered by Chimutengo (2016), who conducted a study to identify factors hindering the adoption of electronic procurement systems in public sector organizations in Malawi. It established that poor supplier preparedness, lack of end-user training, resistance to change, lack of political will and a proper legal framework, and low or lack of data security were the major factors impeding the adoption of electronic procurement systems in public sector organizations in Malawi. On the other hand, the current study agrees with some of the findings, such as users' lack of knowledge about the benefits of the system and lack of employee motivation.

The current study agrees with the findings of Mutale et al. (2017), who also observed that Zambia faces challenges such as poor internet connectivity and limited access to reliable and affordable internet services. These challenges can make it difficult to implement e-GP systems in Zambia.

## **6.2. Conclusions**

From the summary of findings in the study, it is hereby concluded that perceived benefits of use of the system and regulatory framework have a positive influence on the implementation of E-GP at Lusaka City Council, while supplier involvement has the potential to affect the implementation of E-GP at Lusaka City Council.

With a high standard deviation for how organizational structure affects e-government procurement at Lusaka City Council, it was concluded that either the respondents were not exposed to the organizational structure or were not sure if it was a factor.

The study also concluded that lack of leadership skills and poor internet connectivity affect e-government procurement at Lusaka City Council, especially in relation to the implementation of the E-GP system.

From the perspective of the suppliers, they also shared their challenges. For instance, the most prominent challenges were: delays in the finalization of tenders leading to several visits by bidders to the procuring entity (PE); the system disadvantages new entrants with the experience requirements, especially for simplified procurements; the system can only be accessed on gadgets that have installed the Winra (RAR 32-bit) software; and the selection of bidders in simplified bidding is based on the procuring officer's judgment, which sometimes could be biased.

## **6.3. Recommendations**

Based on the study findings and their interpretations, as well as the conclusions, this study recommends the following:

***Perceived Environmental Support:*** Neutral responses about the benefits of E-GP at Lusaka City Council implies

the system have not achieved much due to some reasons like unreliable internet and a lack of managerial support, among others. There is a need for enhancement of the system and improvement in organizational culture to allow others to be part of the process.

**Perceived Organizational Support:** The study notes that political interference has the potential to affect e-government procurement at Lusaka City Council. Measures should be put in place that will allow the system to operate independently. There is also a need to organize consistent sensitization for both the end user and the suppliers, especially in technical aspects of the system.

**Perceived Management Support:** There is a need for

managers to change their strategies. In this case, an important organizational issue is the change in management, which is essential in anticipating and dealing with the psychological, cultural, and technological obstacles that can arise.

**Perceived Technological Support:** On the perceived technological support, the study recommends that Lusaka City Council should invest heavily in the system if they want to reap the benefits of its existence in the future. These investments should be in the form of the provision of resources and the training of the users. These will enable ease of adoption.

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