Factors Affecting the Effectiveness e-Procurement in Selected Local Government Authorities in Tanzania

Dr. Muhsin M. Danga[1]and Jonas Charles Kapwani[2] Scholastica N. Justus[3]

[1, 2, & 3] Lecturers at the Local Government Training Institute, Dodoma, Tanzania, [2][3] are corresponding authors.

Local Government Training Institute, P.O Box 1125, Dodoma, Tanzania * [2]Corresponding Author: dangamuhsin@gmail.com

Abstract: The purpose of this study was to assess the challenges facing the effectiveness on the use and applications of TANePS in nine selected LGAs using Exploratory Sequential Design. The sample size of the study constituted one hundred and thirty-five (135) respondents from the selected councils. Purposive sampling was adopted to obtain the overall practices of TANePS in LGAs. The study was conducted in three regions namely: Dodoma, Manyara and Singida Region where nine councils were involved. These were; Mpwapwa DC, Kongwa DC, Chamwino DC, Babati DC, Hanang DC Kiteto DC Iramba DC, Itigi DC and Manyoni DC. The study revealed that there was ineffective use and applications of TANePS in studied LGAs due to various factors. These included lack of awareness on the use of TANePS, and its contributions in matters related to procurement in LGAs undertakings. Furthermore, the study established various challenges facing TANePS applications and practices which include: Narrow market of common use item, lack of compatibility of TANePS and other existing financial management system operating in the country, lack of trustiness and system security, lack of ICT skills on the use and applications of TANePS, unstable and reliable network connections, and limited or inadequate ICT facilities. To attain effective use and applications of TANePS in Tanzanian LGAs, the councils are advised to recruit qualified staff, procure ICT infrastructure, promote trustiness among the users of TANePS, put in place the security control mechanism system, stabilize network connections, promote awareness on the importance of TANePS applications among the users and integrate TANePS with other existing financial management systems operating in LGAs. Finally, for effective and efficient use and applications of TANePS, councils are advised to set aside enough funds that will be used to support the system including the purchases of standby generators, procuring internet devices, and wherever possible conduct TANePS training to LGAs staff. From the above evidence, this study recommends further researches to be conducted on factors affecting the effectiveness on the use and applications of TANePS in LGAs by scaling study scope as well as at other public sectors.

Keywords: e-procurement, TANePS, effectiveness, LGAs, public procurement, offline procurement, and ICT.

Background of the study

Worldwide, Public Procurement occupy more than 75% of government budget (CAG, 2019). Public procurement is the buying, leasing or act of acquiring public goods, works and services by a procuring entity (government agency). It can be done manually or through automated technology (electronically). Manual procurement is the paper-based procurement processes while e-procurement is the automated technology process of acquiring goods, works and/or services (Mohammed, 2011). The advancement of science and technology globally has affected the style in which both public and private sectors perform their procurement functions. Procurement functions are among the sectors that have been largely affected by the emerging electronic technology. To improve quality service delivery to the citizen, many governments worldwide emphasize the use of electronic procurement (e-Procurement) which is more effective and efficient in comparison to conventional manual system.

E-procurement is the use of information and communications technologies in public procurement. It is the process of procuring goods, works, services through internets and other networking system from potential suppliers. Tanzania begun to recognizes e- procurement since 1980s, when it adopted Electronic Data Interchange (EDI). Electronic Data Interchange is the system that allows customers and suppliers to send and receive Purchases Order (PO) and invoices electronically. It was first applied in education sector when teachers started to develop online catalogues. It is the system that foster efficiency, transparency and accountability to the both parties i.e procuring entity (PE) and suppliers (Jeptoo and Karanja, 2017). The adoption of e- procurement is a result of the directives reached by the Annual Public Procurement Council of East African Member States.

To abide with good governance tenets that promotes positive changes in matters related to quality service delivery to citizen, the government officially recorgnised the use of e- procurement in 2018 through the establishment of Tanzania National e-Procurement System (TANePS) which was launched by Honorable Kassim Majaliwa. The Prime Minister of URT. However, the history of e-Procurement could be traced back as far as 2004 when Procurement Act and its regulations were put in place. Not only that but also the system was again documented in the public procurement acts of 2011 and policy of 2013.

To promote e-procurement, the Public Procurement Regulatory Authority (PPRA) on behalf of the government conducted numerous trainings to the suppliers and procuring entities on how to apply and use TANePS. Additionally, the permanent secretary of finance and planning issued prohibition that restricted non- use of e-procurement procedures to all public entities by December,

2019. Also, further directives were given that only private entities that were registered in TANePS could be allowed to participate in government tender processes. Apart from legal framework, the government installed Installation of Eastern Submarine Cable System and introduced procurement portal and mobile tender alert to promote the use of e-procurement.

TANePS is the government system hosted by Public Procurement Regulatory Authorities (PPRA). It is the system requiring all government institutions/ agency to procure goods, works, consultancies, non- consultancies and disposal of assets by tender online. It is a web based collaborative system developed in accordance with the requirement of public procurement laws, to facilitate public procurement process in Tanzania. It offers secure, interactive, dynamic environment to the all categories of procurement. The system supports various public procurement procedures including user registration, tender notification, tender preparation and submission, online tender evaluation, contract awarding, creation and management of catalogue, creation and management of framework agreement and auctions and payment (GN No 446). Generally, the system covers the entire public procurement circle starting from planning to contract closure. The system phased-out the traditional model procurement system where generally was done face to face or via telephone. The system was adopted after being observed that the old-style model of procurement system spent more energy accompanied with corruption acts when acquiring goods, works, and services.

Statement of the problem

Across the globe literatures on e-procurement noticed that Electronic Procurement System (EPS) is a tool to improve the procurement function both in public and private sectors. Together with these positive outcome of e- Procurement and countless number of efforts made by the government to promote the use and application of e- procurement, still there is low responsiveness on the use and applications of e- Procurement system particularly in Local Government Authorities in Tanzania. The low responsiveness on the use of TANePS as evidenced by the Controller and Auditor General (CAG). CAG report, 2020 reported that 54% of the PEs use submitted their procurement plans to the TANePS. Moreover, 5.8% PEs awarded their awards through TANePS which is equivalent to 0.8% of the contracts awarded. The CAG reports confirmed the low uses and application of TANePS which is against the procurement Act of 2004.

Besides, the ramous of the low responsiveness of TANePS at LGAs, there is little evidence of the factors hindering the effectiveness of TANePS implementation in Tanzania's LGAs. This calls for researches of evaluating the factors influencing the effectiveness of TANePS in Tanzania's Local Government Authorities. Therefore, the purpose of this study is to investigate the factors hindering the effectiveness of e-Procurement at Local Government Authorities in Tanzania.

General objectives

The general objective of this study was to analyze the factors factors affecting the effectiveness e-procurement in Tanzania's Local Government Authorities

Specific research objectives
   a. To ascertain the reaction and perception of the use and application of e- Procurement at LGAs levels.
   b. To examine factors hindering the implementation of effective e- procurement at LGAs levels.

General question

What are the factors influencing the implementation of effectiveness of e- Procurement at Local Government Authorities?

Specific research questions
   a. What is the response of the use and applications of e-Procurement at LGAs levels?
   b. What are the factors affecting the implementation of effective use and applications e- procurement at LGAs levels?

1.5 Significance of the Study

This study was conducted at Council levels where massive percent of funds are directed. The study is important to policy makers for designing strategies for improving efficiency and effectiveness on the use and applications of TANePS at council levels. The study may provide useful contributions to the literature on the effectiveness of the use of ICT in procurement functions at council level and the world at large. The study was conducted in Dodoma, Manyara and Singida Region from nine councils namely; Mpwapwa DC, Chamwino DC, Kongwa DC, Iramba DC, Manyoni DC, Itigi DC, Babati DC, Hanang DC and Kiteto DC. The study focused on the challenges facing e-procurement system in the Tanzanian Local Government Authorities.

2.1 Theoretical Aspect of e-Procurement System
2.1.1 e-Procurement System

E- procurement is the use of information and communications technologies in public procurement. It is the process of procuring goods, works, services through internets and other networking system from potential supplier. It is the system that fostering efficiency, transparency and accountability to the both parties i.e procuring entity (PE) and suppliers (Jeptoo and Karanja, 2017).

2.1.2 Effectiveness

Effectiveness refers to the extent to how things are done in the right manner as pre-specified in the prevailing laws or regulations governing the particular field. In the field of procurement, the effectiveness can be measured by the way how procurements pioneers are making their decision according the public procurement acts and respective regulations (Myowela and Alemanta, 2011). In procurement, adhering to the PPA, rules, procedures and regulations governing public procurement suggest the effectiveness of public procurement practices. In addition to that, effectiveness can be also measured by the way an organization is forecasting customers' demand, assured lead time, keeping inventory records, personal qualifications of procurement staff, inventory control techniques, information sharing (PMIS) and techniques of pricing inventory as well as the qualification of stores personnel.

2.2 Empirical review

Opoku (2003) on his study of the challenges facing Africa countries when implementing e- procurement pointed out that the challenges facing the system differ among countries. The study observed legal framework as a major challenge facing e procurement in most of African countries.

EJISDC (2004) on his study affirms that lack of awareness on the use of ICT is one of the contributing factors facing effective use and applications of e- procurement.

Allen et al, 2001 in his study titled 'e-procurement for Good Governance and Development in Italy, North Africa and middle established that the lack of governance is among of the challenge to the effective e-procurement. Moreover, the study has discovered the political process required to introduce a system of e-procurement integrated with e-government and governance process is among of the factor hindering the effective utilization of e- procurement. During the discussion it was noted that lack of political will to support the introduction of the use and applications of e- procurement tends to hamper effective use of ICT in procurement functions.

Myowela (2011) on the study of Improving Public Service Delivery and Citizens Engagement through E- Government discovered that ineffective use and apply of ICT on procurement process is because of inadequate infrastructures, human capacity, and legal framework.

Based on the above literature review, the following limitation were found to affect the effectiveness on the use of e-procurement in some countries such as; lack of technical knowledge; lack of good governance, non-availability ICT facilities, uncertainties in electric supply; lack of management support, poor level of technology applied in most of the countries; bureaucracy and conservatism, lack of trustiness and system security. Basing on these grounds, therefore, the researcher wanted to find out if the said limitations of e-procurement implementation also affect the effectiveness of the use and application of TANePS at Tanzanian LGAs.

3.0 Materials and Methods

3.1 Study Area

The study was conducted in three regions namely Dodoma, Manyara and Singida involving nine councils of which each region was presented by three councils. These nine councils were selected because of the availability of data since researchers worked to the nine councils as trainers. This study used descriptive method with the aim of exploring challenges facing Local Government Authorities when implementing TANePS. The study population was the council's procurement staffs and potential suppliers from the selected councils involved in this study.

3.2 Research Design

The research adopted a cross sectional design whereby descriptive and exploratory data were captured. Henceforth, both qualitative and quantitative data were collected. The research was designed to allow triangulation by using multi-methods of data collection.

3.3 Sampling Techniques and Sample Size

The study applied multistage sampling procedure whereby: first, purposive sampling was conducted to select the three regions i.e. Dodoma, Manyara and Singida region. Second, probability sampling was employed to select the nine (9) councils and one hundred thirty-five (135) respondents involved in this study of which 6.67% equivalents to nine (9) respondents are Head of Procurement Management Unit, 33.33% equivalents to 45 respondents are procurement officer, 26.67% equivalents to 36 respondents are other procurement stakeholders at the council levels 33.33% equivalents to 45 respondents are suppliers.

Table 1: Respondents Interviewed

S/n	Respondents	Frequency	Percentage (%)
1	HPMU	9	6.67
2	Procurement officer	45	33.33
3	Other procurement stakeholders	36	26.67
4	Suppliers	45	33.33
Total		135	100

3.4. Data Types and Sources

The research collected both qualitative and quantitative information as well both primary and secondary data. In primary data, the researchers intended to know the current situation and perceptions of the people who were interviewed by using questionnaires and focus group discussions. For secondary data, the researchers intended to get both the findings of other researchers and TANePS profile from Public Procurement Regulation Authorities (PPRA) regarding the implementation of e- Procurement at LGAs levels.

3.4.1 Questionnaire

Questionnaire is among widely techniques used in collecting structured information for different purposes. Basically, each respondent is required to respond to the directed questions in a pre-determined order. In this study a total of 135 questionnaires were administered to the council's procurement staffs, other procurement stakeholders and potential suppliers of the selected councils. Questionnaires are very useful in drawing accurate information from the respondents in a logical sequence. Questionnaires were developed to capture information about the ages, the current situation of e- procurement and the factors influencing the effectiveness of TANePS at LGAs levels. The questions in the questionnaire relating to the challenges faced the TANePS were based on a five-point Likert scale as follows: 5 = strongly agreed, 4 = 3 = moderate, 2 = disagreed, 1 = strongly disagreed.

2.4.2 Focus Group Discussion

The follow-up interviews through Focus Group Discussion (FGD) to all staffs and suppliers were conducted to get clarification on some findings whereby a semi-structured interview approach was applied.

3.4.3 Documentary review

The secondary data were collected from council's audit report and PPRA procurement journals and TANePS portal.

3.5. Data Analysis Plan

Data collected were categorized and coded according to a predetermined coding scheme. An effort was made to code the data at the point of collection to simplify work during the analysis stage. Descriptive data were coded after data collection since it is difficult to do so before due to the diversity of possible responses (Saunders et al 2003). The data were then entered into the Microsoft excel statistical data analysis software. Processed data and results were summarized and presented using appropriate statistical tables.

4.0 Results and Discussion

4.1 Responsiveness of the Use and Application of e-Procurement at LGAs Levels

Table 2: Response on the use of e- procurement show that 94 respondents equivalent to 69.62% strongly disagreed with the responsiveness on the use and applications of TANePS at LGAs, 27 equivalents to 20% of the respondents disagreed with the responsiveness on the use TANePS while14 respondents' equivalents to 10.38% were neutral on the response on the use of e procurement at LGAs. The study results revealed low number of suppliers using and applying TANePS in tendering process as most of them still use traditional mode of procurement.

During the discussions, the researchers noticed that among the factors contributing to low responsiveness on the use and apply for TANePS is the non-compatibility of the use and application of TANePS and some of procurement laws such as PPPA 9(1) (j), 68 (2), 69 (5) and 73 and PPR 166. For example, PPR 166 requires micro procurement to be conducted direct from established supermarket if the value of that procurement does not exceed the limit set up but in the TANePS, PEs are required to choose from the list of registered suppliers. Also, in one of group discussion researchers observed that the reluctance on the use and apply of TANePS at LGAs level is due to lack of awareness of how to practices TANePS. Lack of awareness on the use of TANePS has caused low reply of tendering request, this has caused many LGAs to reissue tender something which tends to delay procurement process in public procuring entity.

Table 2: Status of Responsiveness of the Use of TANePS at LGAs

Status of Responsiveness of the Use of TANePS at LGAs	Frequency	Percentage (%)
Strongly disagreed	94	69.62
Disagreed	27	20
Neutral	14	10.38
Agreed	0	0
Strongly agreed	0	0
Total	135	100

4.2 Factors affecting the implementation of effective e- procurement at LGAs levels
4.2.1 Lack of ICT Infrastructure
Table 3: regarding the lack ICT infrastructure for the use TANePS indicated that 60% equivalents to 81 respondents strongly agreed that the lack of ICT infrastructure available for the use of e- Procurement at the council is one of the challenges facing ineffective implementation of TANePS, 27 equivalents to 20% of the respondents agreed that the lack of facilities available support the use of TANePS at the LGAs level is among of the factors hindering effective utilization of TANePS. Moreover, 11 of the participants equivalent to 8.1% were neutral if the ICT infrastructure may humper the effective use of TANePS at LGAs level, 9 participants equivalent to 6.7% disagree that availability of ICT infrastructure may affect the effectiveness of the use and applications of TANePS at the councils while the reminder 7 participants equivalent to 5.2% strongly disagreed that the effective use of TANePS can be affected by ICT infrastructure. The study results revealed that lack of the important ICT working tools required at the council such as computers, internet device, tables, fax machines undermine the effective utilization of TANePS. The absence of ICT often leads to the failure of submitting important reports in the PMIS, and these had caused the LGAs to adopt paper work instead of electronic procurement.

Table 3: Status of ICT Infostructure for the Use of TANePS at LGAs

Status of ICT Infostructure for the Use of TANePS at LGAs	Frequency	Percentage (%)
Strongly disagreed	81	60
Disagreed	27	20
Neutral	11	8.1
Agreed	9	6.7
Strongly agreed	7	5.2
Total	135	100

2. Instability Network Connection
Table: 4 with respect of the status of Network Connection indicated that 90.37% equivalents to 122 respondents strongly disagreed with the internet connection available at the council while 13 equivalents to 9.63% of the respondents disagreed with the network connection in the councils. The study results revealed poor internet connection at the council because of instability electricity power and high cost of operating internet facilities. Poor network connection among LGAs is among the factors hindering the use of TANePS at LGAs. The poor internet connection facilities have triggered the failure of effective use of TANePS at council level. In some LGAs the researcher found that network connections are attributed to the lack of funds to procure internet services. Additionally, the issue of electricity power was arisen as the factors undermining network connection at LGAs level since most of LGAs suffer stable electricity power and surprisingly majority of councils have no emergency generator in case of power outage.

Table 4: Instability Network Connection

Status of network connection stability for the Use of TANePS at LGAs	Frequency	Percentage (%)
Strongly disagreed	122	90.37
Disagreed	13	9.63
Neutral	0	0
Agreed	0	0

Strongly agreed	0	0
Total	135	100

3. Insufficient of ICT skill

Table 5 regarding the status of ICT skill of the users of TANePS shows that 87.4% equivalents to 118 respondents strongly disagree with the ICT skill to the staff using and applying TANePS both at LGAs and supplier levels, while 17 equivalents to 12.6% of the respondents disagreed with the qualification of the users TANePS. During the discussions, one respondent argued that many of procurement pioneers know nothing about the use and the application of ICT skill something which impairs the effectiveness of the use and application of TANePS. It was further found that some of LGAs staff lacked very basic computer applications skills. The poor application and the use of ICT skills is attributed to the fact that most of procurement pioneer they don't have ICT skills background since on their curriculum ICT issues were isolated. It was noted that even though most the procurement practitioners lack ICT skills on their syllabus the knowledge gap could be solved by short courses but worse there is no capacity building on how to implement TANePS.

Table 5: Status of ICT skills on the use of TANePS

Status of ICT skills on the use of TANePS	Frequency	Percentage (%)
Strongly disagreed	118	87.4
Disagreed	17	12.6
Neutral	0	0
Agreed	0	0
Strongly agreed	0	0
Total	135	100

4. Lack of Trustiness and Security

Table 6 of the status of Trustiness and Security shows that 81.5% equivalents to 110 respondents strongly disagreed with the system security and trustiness of the use and application of TANePS, when 81,5% strongly disagreed 20 equivalents to 14.8% of the respondents disagreed with the system security when use and applications TANePS while 5 participants equivalent to 3.7% were neutral with the status of trustiness and system security when utilize the TANePS. The study results revealed lack of security since in many LGAs cybercrime was observed from system hackers. Together with external hacker internal users frequently leak some information intentionally or fraudulently. Moreover, the study revealed the availability of ghost suppliers who often attempt to apply for tenders with no qualification. Through discussions with procurement pioneer the researchers have also experienced the existence of inflating price in TANePS higher than offline procurement.

Table 6: Status of Trustiness and Security

Status of Trustiness and Security	Frequency	Percentage (%)
Strongly disagreed	110	81.5
Disagreed	20	14.8
Neutral	5	3.7
Agreed	0	0
Strongly agreed	0	0
Total	135	100

6. Non-Compatibility with Existing Systems

Table: 7 regarding the status of TANePS compatibility with the existing systems operating in the country shows that 59.26% equivalents to 80 respondents strongly disagreed with the status of TANePS compatibility with other existing electronic system available in the country. When 59.26 strongly disagreed with the compatibility of TANePS and other system, 29 equivalents to 21.48% of the respondents disagreed with the compatibility of TANePS and the other 8.15% equivalents to 11 respondents were neutral in respective of compatibility of TANePS and other existing financial management system operating in the country. The study revealed that TANePS is not integrated with other financial management system, this might cause timeous work during posting information for the purpose of producing financial statement. Not only that but also the system lack ownership since the system is owned by overseas companies. During discussion we have noticed that the system administrator also is the mentioned company, this create cereous to the users of TANePS when requiring system technical support since it takes almost two weeks in solving technical issue. One respondent also argued that a lot of configuration are missing in the system contrary to the GN No 446, since the system is only well-suited for tendering process whereby other stages of procurement is ignored consequently it is performed offline.

Table 7: Status of TANePS Compatibility wand other Existing Systems

Status of TANePS Compatibility with Existing Systems	Frequency	Percentage (%)
Strongly disagreed	80	59.26
Disagreed	29	21.48

Neutral	15	11.11
Agreed	11	8.15
Strongly agreed	0	0
Total	135	100

Market of Common Use Item

Table: 8 in respects of the status of common use item market indicated that 96.29% equivalents to 130 respondents strongly disagreed with the current situation of Common Use Item market when using TANePS, when 96.29% strongly disagreed with market of common use item when using TANePS 3.71% of respondents equivalents to 5 respondents disagree with the wide-ranging of common use item when using TANePS. Respondents claimed that the system has narrowed the market of common use item compared to the offline system, since the TANePS recognize supplier of common use item in regional wise meaning that suppliers of other regions have no access of bidding a tender of certain procuring entity located at other regions. The system regionalizes common use item instead of nationalize. This has caused PEs in the certain regions fail to procure or to procure at high cost since some regions lack suppliers of some goods and services and if is there the required items sold at high costs.

Table 8: Status of Common Use Item Market

Status of Common Use Item Market	Frequency	Percentage (%)
Strongly disagreed	130	96.30
Disagreed	5	3.71
Neutral	0	0
Agreed	0	0
Strongly agreed	0	0
Total	135	100

5.0 Conclusion and Recommendation

5.1 Conclusion

From what has been found out by the researcher through interview regarding the responsiveness of the use and applications of TANePS, study results revealed low responsiveness of the use and apply of TANePS because of the lack of; awareness of the use of TANePS, awareness on the contribution of the use of TANePS and political will on the use of TANePS. In additional to that, based on the main purpose of evaluated the challenges facing the effectiveness of e-Procurement in LGAs, the study result noticed the ineffective use of TANePS at council levels because of the following challenges; Narrow market of common use item, lack of compatibility of TANePS and other existing financial management system operating n the country, lack of trustiness and system security, lack of ICT skills on the use and apply TANePS, lack stable network connection, lack of enough ICT facilities.

5.2 Recommendation

For effectiveness of use and apply of TANePS in Tanzanian LGAs; the councils are advised to recruit qualified staff, procure ICT infrastructure, promote trustiness among the users of TANePS, in place control mechanism of security system, stabilize network connection through procuring of supportive facilities, promotion of TANePS awareness among users of TANePS and refinement of existing TANePS to be compatible with other financial management systems operating at the level of LGAs.

Finally, for effective proper use and apply of TANePS all councils are advised to set aside enough funds that will be used support the system such as; purchases of emergency generator, procuring of internet devices, conducting TANePS training. From the above evidence, this study recommends further researches to be conducted on factors affecting the effectiveness of the use and apply of TANePS in LGAs by scaling study scope as well as at other public sectors rather than LGAs.

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