



**ASSESSING INFRASTRUCTURE READINESS FOR NATIONAL  
ELECTRONIC PROCUREMENT SYSTEM OF TANZANIA (NeST)  
ADOPTION IN PUBLIC INSTITUTIONS: A CASE STUDY OF THE  
NATIONAL HOUSING CORPORATION HEADQUARTERS**

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## Abstract

*This study evaluates the infrastructure readiness of the National Housing Corporation (NHC) Headquarters in Tanzania to adopt the National Electronic Procurement System of Tanzania (NeST). NeST, introduced in 2023, aims to address challenges in Tanzania's previous electronic procurement system, TANEPS. Despite the anticipated benefits of NeST, several infrastructural issues may hinder its successful implementation. Through a descriptive research design, survey data from 81 NHC staff members across departments was analyzed using SPSS, examining perceptions of technological infrastructure adequacy, internet connectivity, technical support, and system usability. Results indicate a generally positive perception of the existing infrastructure; however, notable concerns were identified, such as insufficient internet access, outdated software, and limited technical support, which pose significant challenges to NeST's deployment. The study recommends targeted infrastructure upgrades, enhanced training, and continuous system evaluation to facilitate NeST adoption effectively.*

*Keywords: Infrastructure Readiness, Public Institutions, National e-Procurement System of Tanzania, NeST, e-Procurement system, Adoption*

## INTRODUCTION

### Background

Mueller et al. (2024) emphasize that the internet has evolved from its origins as a scientific network to a powerful platform that now facilitates various commercial opportunities. This transformation has a profound influence on the way business is conducted in numerous industries, enhancing access to information, goods, and services. Governments around the world, regardless of their level of development, have adopted information systems to improve public administration, facilitate access to information, and promote collaboration in urban affairs (Mchopa, 2020). Specifically, in e-procurement - which is the acquiring, renting, leasing, or buying of goods, services, and works through information systems - the internet plays a growing role in material acquisition (Innocent, 2016; Mavidis et al., 2022).

This automation of procurement activities such as sourcing, vendor management, ordering, payment, and tendering processes makes procurement more efficient, effective, economical, and transparent. Also, makes it easier for buyers and sellers to talk to each other, reduces the amount of work that needs to be done by administrators, and improves openness and oversight throughout the whole buying process (Toktaş-Palut et al., 2014; Ibem & Laryea, 2015; Nawi et al., 2016; Hossain, 2016; Amarathunga & Liyanagamage, 2023).

In the last ten years, there has been a significant expansion in the global GDP, leading to a rise in procurement operations on a global scale. Based on data from the World Bank (2021), the worldwide gross domestic product (GDP) experienced substantial growth, increasing from \$66.83 trillion in 2010 to \$85.91 trillion in 2020, indicating notable economic growth. The economic expansion has been reflected in procurement operations, which have experienced a rise as a result of increased demand for products and services. Africa had a significant increase in its Gross Domestic Product (GDP) from \$1.68 trillion in 2010 to \$2.45 trillion in 2020, indicating a strong economic performance despite facing multiple obstacles (African Development Bank, 2021). The economic progress has stimulated the technological growth of procurement procedures in African countries, improving the interactions between the public and private sectors.

Tanzania's Gross Domestic Product (GDP) has exhibited a consistent and stable increase, surging from \$31.39 billion in 2010 to \$64.41 billion in 2020 (World Bank, 2021). The favorable economic trend has significantly influenced the procurement environment, resulting in higher investments and the commencement of multiple development initiatives in the country. One major reason for this increase is the government's deliberate decision to allocate at least 70% of its budget towards the efficient and effective provision of public goods and services in sectors like health, education, military, and infrastructure. The significant budget allocation aims to improve the quality of services offered to taxpayers, who are the main donors to these funds (Basheka & Kabatereine, 2013; Afolabi et al., 2020).

The growth of the procurement activities in the country attracted the transformation of the traditional procurement activities to e-procurement activities (Stone et al., 2012). This transformation was driven to enhance savings, reduce circle time, manage inventory levels while ensuring data security, transparency, and accountability during the procurement process (Campos, 2023). This change is not only for public sector even private sector for instance According to Gitahi (2011), the Nation Media Group is an example of a company that has a sophisticated platform called N-Soko, which allows consumers to make online purchases. There is a growing body of research indicating that the adoption of e-procurement technology is happening at a modest pace, despite the numerous benefits it offers (Arasa & Achuora, 2012).

In Tanzania the transition began in early states where all public procurement activities were conducted under Tanzania National Electronic Procurement System (TANePS) launched in 2018. This was regulated by Public Procurement Regulatory Authority (PPRA) (Part XI GN 446 (Regulations 340-368)) in order to enhance the public procurement function. Despite the numerous benefits of e-procurement identified in research studies (*Rasheed et al.*, 2019;

Neupane et al., 2014; Shatta & Layaa, 2020) such as enhanced efficiency, transparency, and cost savings, Tanzania confronts major barriers to completely adopting and implementing e-procurement systems. According to the Public Procurement Regulatory Authority (PPRA, 2018), just 35% of Tanzania's public procurement bodies have successfully incorporated e-procurement into their procedures, with the remainder still using traditional, paper-based methods. This poor adoption rate is attributed to a variety of causes, including inadequate infrastructure, a lack of technical skills among procurement workers, and organizational resistance to change (Mutahaba, 2020). Furthermore, the high cost of developing and maintaining e-procurement systems, combined with cybersecurity concerns, worsens the problems (Mlinga & Lema, 2021). Due to the challenges and weakness shown by TANePs both from the buyers to the suppliers the government developed another e- procurement system the National Electronic Procurement System of Tanzania (NeST) that was launched in 30<sup>th</sup> June 2023 through a public notice (KUMB. GA. 128/192/01/F/38).

Tanzania's National Electronic Procurement System (NeST) was established as a strategic solution to the difficulties found in the previous Tanzania National e-Procurement System (TANePS). TANePS, while a pioneer in digitizing procurement processes, encountered a number of major challenges, including low user acceptance, frequent technical faults, and insufficient interface with other government systems (PPRA, 2020). Furthermore, according to a report by the Ministry of Finance and Planning (2021), only 45% of procurement entities have fully transitioned to TANePS, with many expressing worries about the system's dependability and use. In contrast, NeST was created to address these shortcomings by providing a more robust and user-centric platform with enhanced functionalities such as real-time data analytics, increased system stability, and seamless integration with financial management systems (Ministry of Finance and Planning, 2022).

Although the National Electronic Procurement System of Tanzania (NeST) is still in the process of being developed, it is presently accessible for users to carry out their regular purchase tasks. The initial stage of deployment highlights the system's emphasis on being extremely adaptable, meeting the specific requirements of buyers, and addressing common difficulties in public procurement. Nevertheless, there are still outstanding infrastructural difficulties that impede the complete functionality and efficacy of NeST. As per the findings of the Public Procurement Regulatory Authority (PPRA, 2022), 40% of public procurement institutions faced challenges in obtaining reliable internet connections, while 35% lacked the essential ICT equipment required to effectively utilize the system. These problems emphasize a crucial deficiency in the preparedness of infrastructure, which is necessary for the effective implementation of NeST. The purpose of this study is to evaluate the existing infrastructure and

determine if it is sufficient to facilitate the successful implementation and utilization of NeST. Additionally, study findings from this study aim to identify any essential enhancements needed to optimize the system's performance and provide strategies.

### **Problem Statement**

In 2018, Tanzania initiated the Tanzania National Electronic Procurement System (TANePS) to improve its procurement processes. Notwithstanding considerable progress, TANePS has faced substantial obstacles. This encompasses restricted user acceptance, recurrent technological failures, and insufficient interaction with other governmental systems (PPRA, 2020). A report from the Ministry of Finance and Planning (2021) revealed that merely 45% of procurement entities had completely adopted TANePS, largely due to apprehensions about the system's stability and usability. This circumstance highlighted the pressing necessity for a more resilient and intuitive system, resulting in the creation of the National Electronic Procurement System of Tanzania (NeST).

Research has thoroughly examined the difficulties encountered by TANePS. The Public Procurement Regulatory Authority (PPRA, 2020) recognized inadequate training as a significant barrier hindering user adoption and causing inefficiency. Kibona (2023) emphasized that community workshops and training for procurement stakeholders substantially improve the effective execution of electronic procurement systems. The Ministry of Finance and Planning (2021) observed that inadequate adoption rates are mostly attributable to the system's intricate interface and recurrent breakdowns. Mlinga and Lema (2021) examined technological difficulties arising from insufficient integration with other governmental databases and financial management systems, leading to data discrepancies. Furthermore, Mutahaba (2020) identified organizational resistance to change and inadequate infrastructure as major obstacles. The World Bank (2020) emphasized the essential requirement for enhanced infrastructure and training programs to effectively capitalize on the benefits of digital procurement systems. Shatta and Layaa (2020) evaluated TANePS's technical deficiencies concerning those of other nations, highlighting the imperative for a more advanced system such as NeST. NeST was developed to rectify TANePS's deficiencies by offering sophisticated features, including real-time data analytics and improved system reliability.

Nonetheless, the implementation of NeST is hindered by outstanding infrastructural issues. As per PPRA (2022), 40% of public procurement organizations encounter problems with unreliable internet connectivity, and 35% are deficient in the requisite infrastructure to operate the system efficiently. The infrastructural shortcomings pose significant challenges to the successful implementation of NeST. This study seeks to assess Tanzania's infrastructure

preparedness for the implementation of NeST. The study will evaluate current capabilities and determine required improvements to enhance system efficiency. The findings will yield critical insights to guarantee that NeST adequately fulfills user needs and optimizes its potential influence on enhancing public procurement in Tanzania. This study aims to enhance public procurement practices in Tanzania by addressing issues through targeted training and infrastructural enhancements.

## RESEARCH METHODOLOGY

This study took place at the National Housing Corporation Headquarters (NHC HQ) in Dar es Salaam Region, Tanzania. The institution was chosen for a case study due to its active participation in e-procurement operations using National Electronic Procurement System of Tanzania (NeST), which demonstrates the adoption of electronic procurement in a public institution. The e-procurement activities at NHC HQ provided an ideal setting for this study to be used as a case study for our study. The study population was 102 e-procurement users from different departments of the National Housing Corporation at HQ, as documented in the records for the year 2024. Study design is the organization of circumstances for gathering and examining data in a way that seeks to balance relevance to the study goal with efficiency in methods (Kothari, 2014). The authors utilized a descriptive research strategy to methodically provide a full explanation and description of the study subject. This approach assisted authors in organizing and executing the research in a manner that allows for the achievement of desired outcomes, hence enhancing the likelihood of acquiring information relevant to the actual scenario. Mathematically a sample size is defined as a subset of the full set (Saunders, 2019). The sample size was chosen to ensure efficiency, representativeness, dependability and flexibility. The study's sample size was calculated using Yamane's formula:

$$\text{Sample size (n)} = \frac{N}{1 + Ne^2}$$

Where; N = Population size, e = Margin error.

$$\text{Sample size (n)} = \frac{102}{1 + 102 * 0.05^2} = 81.274$$

Therefore, the total number of 81 respondents was involved from all departments at NHC HQ. The study employed random sampling procedures to choose respondents from department based on their possession of the requisite study features. In this study, the authors collected both primary and secondary data. Primary data were collected through questionnaire distributed to respondents from various departments at NHC HQ and secondary data were collected through documentary review. The study utilized a quantitative approach to analyze

data using SPSS software (Version 20) to assess and organize the acquired data into tables for presentation. Quantitative data collected through questionnaire was analyzed in form of descriptive and inferential statistics. The descriptive statistics involved the use of frequency distribution tables where frequencies and percentages basing on respondents' responses were displayed.

## RESULTS AND DISCUSSION

### Demographic results and discussion

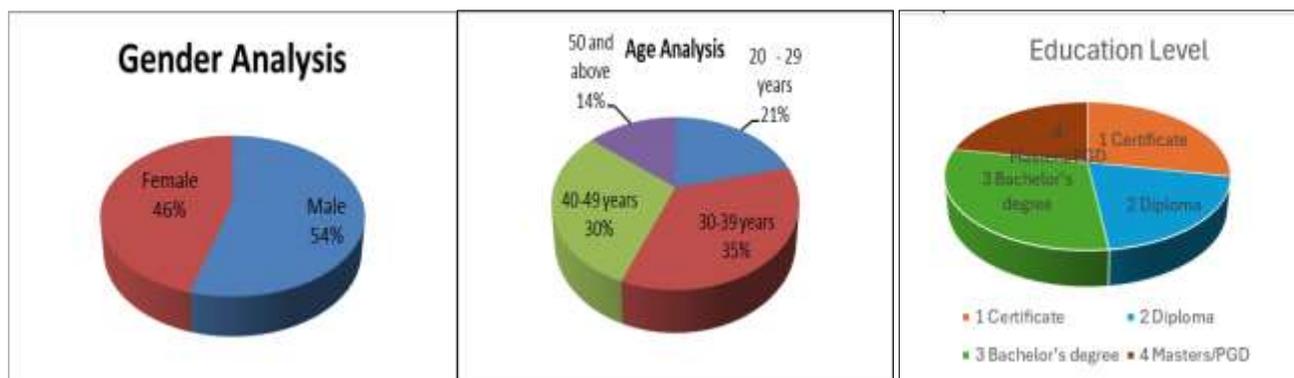


Figure 1: Demographic results

The study evaluated 81 respondents who were staff members of the National Housing Corporation (NHC) Headquarters from different departments including the procurement management unit (PMU), stores, ICT department, Human Resource Management, Project Development and Management. Out of 81 respondents, 46% were female and 54%. This implies that the organization's gender policy is fairly balanced thus the ratio between male and female is equivalent.

The age distribution data indicates that the predominant group of respondents (35%) is within the 30-39 age range, closely followed by individuals aged 40-49 (30%). Collectively, these groups constitute a substantial segment of the workforce, indicating a reasonably seasoned team presumably endowed with expertise and adaptability, facilitating the implementation of new systems such as the National Electronic Procurement System (NeST). The 20-29 age group (21%) may provide enthusiasm and technological proficiency, facilitating readiness for new systems, and the case of a smaller segment of respondents aged 50 and above (14%) may indicate probable opposition to change due to entrenched practices. This age distribution suggests a workforce predominantly prepared to adopt new technological efforts.

However, specific training and support may be required to facilitate seamless integration, especially for the older demographic.

The respondents' educational qualifications exhibit a varied skill set that may impact their preparedness to embrace the National Electronic Procurement System (NeST). Given that 30% of the workforce holds a bachelor's degree and 22% possess a master's degree or postgraduate diploma, a considerable segment presumably has a strong fundamental comprehension of complicated systems, advantageous for understanding the capabilities of NeST. The 28% possessing certifications may signify practical experience, while their official educational backgrounds may differ. Concurrently, 20% of those possessing diplomas may have a more specialized skill level, perhaps facilitating practical implementation components.

The results reveal that most participants have extensive job experience, with 43% possessing 7-9 years and 32% exceeding 10 years of experience. This experience is expected to improve their comprehension of organizational procedures and systems, rendering them more proficient in delivering pertinent and informed solutions concerning the implementation of the National Electronic Procurement System (NeST). The presence of seasoned personnel can cultivate a culture of educated decision-making and critical analysis, guaranteeing that the feedback obtained from the survey is both credible and dependable. Conversely, the lower percentages of responders with limited experience (15% with 4-6 years and 10% with 1-3 years) may provide novel perspectives; yet, their restricted experience could result in less sophisticated ideas. The substantial presence of experienced personnel enhances the credibility of the findings and indicates that the firm is well-equipped to implement NeST efficiently, as these individuals are likely to comprehend the consequences and advantages of such a system.

### Assessing the Infrastructure Level in Adopting NeST

The study aimed to assess the level of infrastructure within the National Housing Corporation Headquarters for supporting the adoption of NeST, three different questions that are in alignment with the first objective were asked, and findings for the questions are discussed and presented as follows;

Table 1: Level of Infrastructure to Supporting Adoption of NeST

Sn.	Statement	Mean	Standard Deviation	t-test	Interpretation
1	The existing technological infrastructure in our institution is adequate for supporting NeST	3.8	1.06	t = 6.778, p < 0.001	Agree

The finding from table 1 indicates the mean response of 3.8, showing an inclination to agree. The median is "Agree," and the standard deviation is 1.06, indicating some variation in replies. The one-sample t-test against a neutral value (3) yields a significant difference (p-value = 0.001), suggesting that the responses differ considerably from neutral. The analysis indicates that respondents typically view the technological infrastructure supporting the National Electronic Procurement System (NeST) as adequate. The t-test results ( $t = 6.778$ ,  $p < 0.001$ ) demonstrate that this favorable perception is statistically significant, indicating that the consensus on infrastructure sufficiency is a legitimate trend rather than a mere coincidence.

The standard deviation of 1.06 signifies a degree of variety in responses; yet, merely 13.58% of respondents expressed disagreement (with 2.47% strongly disagreeing), while 19.75% maintained a neutral stance. This indicates that although stakeholders predominantly perceive the existing technological infrastructure as sufficient for NeST deployment, there remain areas of worry and neutrality that underscore possible opportunities for enhancement. The research indicates strong confidence in the current infrastructure, although it also implies that resolving the complaints of a minority could improve general satisfaction and efficiency.

The examination of data concerning the National Electronic Procurement System (NeST) indicates a predominantly positive view of the technological infrastructure among participants, with a mean score of 3.8. A substantial percentage (66.67%) articulates favorable opinions, indicating robust consensus with the system's sufficiency. The findings correspond with recent research in Africa that underscores the significance of technology in improving public sector efficiency and transparency (Mansouri & Saidi, 2021; Adebayo et al., 2020). The one-sample t-test results ( $t = 6.778$ ,  $p < 0.001$ ) indicate that respondents' perceptions considerably diverge from neutrality, affirming the effectiveness of the infrastructure as shown by Ndemo and Weiss (2020), corroborates this, demonstrating that favorable user impressions of electronic systems might facilitate their adoption and integration in public administration.

The standard deviation of 1.06 signifies a degree of variety in the responses. The 13.58% of respondents who disagreed and the 19.75% who stayed neutral underscore significant concerns that warrant consideration. This study aligns with observations by Ogunleye and Adebayo (2022), who reported that even in contexts of perceived general efficacy, some user groups may encounter hurdles that could impede wider acceptance. Addressing the concerns of the minority may be crucial for enhancing user satisfaction and the overall efficiency of the NeST. Nkengafac et al. (2021) emphasize that including users through training and feedback mechanisms can pinpoint specific areas for improvement, hence fostering a more inclusive integration of technology in public procurement systems. Furthermore, the "Agree" mode, indicated by 30 respondents, underscores a consensus that can be strategically utilized

in stakeholder engagement and communication initiatives. By emphasizing confidence-building and addressing criticism, the NeST can improve the experience and effectiveness of its user base, as proposed by Moyo and Akinwunmi (2023), who endorse user-centric methodologies in technological implementation in Africa.

### Training Users and Developing Capabilities

Table 2: Level of Infrastructure to Supporting Adoption of NeST

Sn	Statement	Mean	Standard Deviation	t-test	Interpretation
1	Participants believe that the training sessions for NeST have been effective in preparing them to use the system	3.8	1.06	t = 6.778, p < 0.001	Agree

The findings reported that the participants' perceptions of the effectiveness of NeST training are good, with a mean score of 3.8 on a 5-point scale (SD = 1.06). The t-test result (t = 6.778, p < 0.001) confirms the statistical significance of this perception, indicating that participants, on average, agree that the training sessions were effective in preparing them to utilize the system.

This finding is consistent with other studies that have shown the relevance of training in the successful implementation of digital systems, particularly in developing African economies. Research has shown that excellent training programs are critical to the successful adoption and use of e-government and other digital technologies. For instance, Mambo et al. (2021) discovered that e-government training programs considerably improve users' confidence and competence, resulting in increased system utilization and satisfaction. Similarly, Oyelaran-Oyeyinka and Konda (2020) emphasized the need of training in bridging the digital divide, particularly in sub-Saharan Africa, where access to technology and digital literacy is typically limited.

The t-test results suggest that the training had a statistically significant and practically useful effect, with participants agreeing on its effectiveness. This shows that the NeST training sessions provided participants with the required skills and knowledge to properly navigate and use the system. The value of training for digital system adoption has been thoroughly proven in African contexts. In their study on e-government in Africa, Carter and Bélanger (2022) underline that the effectiveness of technology adoption is highly related to the quality of training programs. Also, Chigona et al. (2020) stated that comprehensive training in public administration systems

is critical for increasing user involvement and service delivery. This lends support to the premise that well-structured training can considerably improve the efficiency and efficacy of digital systems, particularly in poor nations such as Africa.

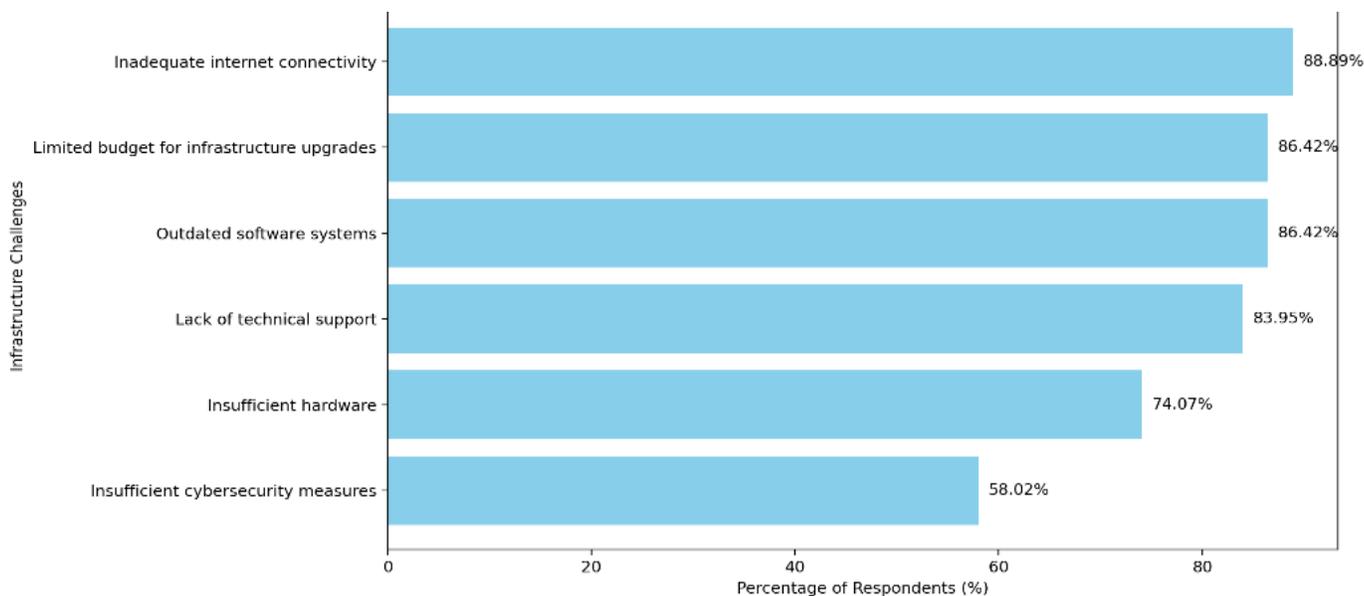
Furthermore, the study's significant standard deviation (1.06) implies variation in participants' training experiences or perceptions. This diversity is frequent in large-scale training programs, where participants may have varying levels of digital literacy, prior knowledge, and expectations. According to Olabode and Adebayo (2021), such variety in participant characteristics necessitates bespoke training programs that can serve the different needs of users in African contexts, where government officials frequently possess a mix of digital skill levels.

Furthermore, the significance of the data indicates the possibility of scaling up such training programs. African governments and institutions that want to execute digital transformation efforts should invest in well-structured, accessible, and ongoing training programs to guarantee that all users are properly prepared. Continuous professional development opportunities could strengthen these initial training efforts, allowing users to stay current with system updates and upcoming technology.

### Infrastructural Challenges

The study aimed to determine the main infrastructural challenges faced by adopting NeST and findings were presented in Figure 2.

Figure 2: Infrastructural challenges in adopting NeST



The most important barrier mentioned is a lack of internet connectivity, with 88.89% of respondents reporting it as a problem. This is consistent with a large body of studies documenting the digital gap in many African countries. As Moyo and Fomunyoh (2021) point out, unpredictable and poor internet connections continue to be a significant barrier to digital transformation in Sub-Saharan Africa. Despite developments in mobile connectivity, many rural and underserved urban regions continue to lack dependable internet access. Kiganda et al. (2022) underline that inadequate internet infrastructure impedes the ability to employ e-government services, hurting both public administration and citizen involvement. The International Telecommunication Union (ITU) has emphasized the necessity of resolving this issue, stating that enhancing internet access is critical for realizing the full potential of digital systems in developing nations. The difficulties associated with poor connectivity are particularly acute in nations where internet access is frequently regarded as a luxury rather than a basic service, limiting access to digital education, government services, and e-commerce.

Outdated software systems were also identified as a significant concern, with 86.42% of participants citing this as an issue. This issue is frequently linked to a lack of continued investment in technological advancements. In many African countries, public organizations have limited funds and a lack of technological competence, resulting in the continuous usage of old software. As Adu and Olaniyi (2020) suggest, relying on legacy systems frequently results in inefficiencies in service delivery and impedes the integration of new technology. According to Sambou et al. (2021), antiquated software systems might represent cybersecurity threats since they are unable to implement new security measures, aggravating the issues encountered by public and commercial businesses. Upgrading outdated systems necessitates substantial investment, which many African governments and businesses cannot afford, despite the growing demand for more advanced and secure software solutions. Many African countries have a critical limitation due to low finances for infrastructure renovations, as noted by 86.42% of respondents. Eze et al. (2020) observe that there is a substantial gap between governments' technological needs and available resources. Despite an increased understanding of the relevance of digital systems in governance and economic development, the financial resources needed to construct and maintain a strong infrastructure are sometimes unavailable. This financial disparity is worsened by competing priorities in countries where fundamental services like healthcare and education are neglected. As a result, digital infrastructure is frequently overlooked, despite its potential to improve service delivery and governance. According to Onyema et al. (2020), cooperation with the private sector and foreign development agencies could assist bridge this gap by providing much-needed money for infrastructure development.

Another important problem, as reported by 83.95% of participants, is a lack of technical help. Effective technical support is critical for maintaining the seamless running of digital systems, especially during the initial stages of installation. According to Ochieng et al. (2022), many African countries experience a trained IT expert shortage, which has an impact on digital system maintenance and troubleshooting. This problem is exacerbated by the fact that public sector entities frequently cannot afford to acquire and retain qualified employees due to financial restrictions. Lack of technical help has an impact on user confidence and participation with digital technologies. When consumers encounter difficulties and do not receive immediate assistance, they may feel frustrated and stop using the system entirely. Olowe and Igbokwe (2021) advocate that governments invest in local technological talent through training and development initiatives to enable long-term digital change. While less common than the prior issues, insufficient hardware (74.07%) remained a major issue. Bajulaiye and Adedeji (2021) address the pervasive problem of inadequate hardware in Africa, particularly in rural and disadvantaged areas. In many circumstances, public sector employees are forced to use obsolete or inadequately capable devices to complete their tasks, reducing the effectiveness of digital systems. This issue is especially difficult when working with enormous datasets or sophisticated software applications that need high-performance processors.

To address this issue, governments may need to emphasize hardware purchase, which might be accomplished through government subsidies or public-private partnerships. Akinmoladun et al. (2022) propose that using cloud computing and other cost-effective technology solutions may give a temporary solution to hardware shortages, allowing enterprises to execute applications without the need for large local infrastructure. The difficulty of insufficient cybersecurity measures, which was noted by 58.02% of participants, is especially troubling considering the rising frequency of assaults worldwide. According to Mugisha and Mwisukha (2023), cybersecurity remains a significant concern for African governments and businesses due to inadequate resources, a lack of technological skills, and poor regulatory frameworks. Inadequate cybersecurity measures can lead to data breaches, system vulnerabilities, and a loss of public trust, all of which reduce the efficacy of digital systems. African governments are beginning to grasp the importance of cybersecurity and developing more comprehensive frameworks and policies. However, as Hassan and Jalloh (2020) point out, enforcement of these policies is frequently inconsistent, and the ability to avoid and respond to cyber attacks remains weak. Improving the security of digital systems requires strengthening cybersecurity infrastructure and boosting worker capacity.

## CONCLUSION

The purpose of this study was to analyze the infrastructure readiness for the implementation of the National Electronic Procurement System (NeST) at Tanzania's National Housing Corporation (NHC) Headquarters. The findings show that, while the existing infrastructure is generally seen as suitable for enabling NeST, significant problems remain that may limit its full potential. The majority of responders from various departments gave positive views on the infrastructure's ability to support NeST, emphasizing the institution's readiness in terms of basic technological resources. However, the survey also identified important areas of worry, such as poor internet access, obsolete software systems, insufficient technical support, and cybersecurity concerns. These concerns are congruent with the frequent barriers that public organizations in many African nations experience when implementing digital technologies.

The demographic profile of NHC employees further indicates that the organization is well-positioned to implement NeST. The workforce is diversified, with a strong mix of experience and educational credentials, which improves their capacity to interact effectively with new technology systems. Participants also gave excellent feedback on NeST training, demonstrating that the institution is working to ensure staff readiness for the digital transformation. However, despite these encouraging signs, considerable infrastructure issues persist, particularly in terms of connection and system updates. Unless these hurdles are addressed swiftly, they have the potential to impair NeST's effectiveness and durability.

Overall, the analysis suggests that NHC's infrastructure is generally suitable for the implementation of NeST, but certain major deficiencies must be addressed. Strengthening the infrastructure to address issues like as internet connectivity, upgrading obsolete software, and expanding the capacity for technical assistance and cybersecurity are critical to the system's long-term viability. In addition, continued investments in training, hardware, and user support will help guarantee that the NeST is effectively incorporated into Tanzania's public procurement processes.

## RECOMMENDATIONS

### Infrastructure Upgrades

Institutions should give infrastructure issues top priority by improving internet connectivity, modernizing hardware and software systems and setting aside enough money for these changes. Furthermore, crucial for safeguarding private procurement data is strengthening cybersecurity policies.

### Enhanced Training Programs

Expanding and increasing frequency of training courses will help to guarantee staff members are ready for the acceptance of NeST. Emphasize particular areas including system navigation, cybersecurity, troubleshooting, sophisticated software use and basic computer skills.

### Strengthening Management Practices

Management should keep helping NeST adoption by means of regular training, open communication and creation of specialized implementation teams. Offering incentives and including NeST objectives into performance reviews helps staff members stay motivated and match their efforts to institutional goals.

### Continuous Evaluation and Improvement

Institutions should routinely assess how well their management systems, training courses and infrastructure hold together. Staff comments should be actively sought out and applied to make required changes guaranteeing the effective acceptance and use of NeST.

### AREA FOR FURTHER STUDIES

Future research should explore several areas to help public institutions to successfully adopt the National e-Procurement System of Tanzania (NeST). These comprise investigating the particular technological enhancements needed and their direct effect on NeST efficiency, evaluating the long-term success of present training programs and analyzing the correlation between management practices and employee engagement in the NeST adoption process. Important insights could also come from looking at cybersecurity measures and data protection policies, getting user comments for system enhancements, examining how budget allocation influences NeST deployment and doing comparative studies with other e-procurement systems. Finally, knowing how organizational culture affects NeST acceptance will enable one to spot obstacles and promoters, so providing a whole picture to improve the application of the system.

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