



THE INFLUENCE OF MANAGEMENT SUPPORT AND OF ICT APPLICATION IN IMPLEMENTATION OF ANNUAL PROCUREMENT PLANS ON PUBLIC ENTITIES IN TANZANIA: A CASE OF TANROAD IN IRINGA REGION

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ABSTRACT :

The purpose of this study was to assess the influence of management support and ICT application on the implementation of annual procurement plans (APP) in public entities, with a focus on TANROADS in the Iringa Region.. A mixed-methods approach was adopted, employing a cross-sectional research design. Data collection involved structured questionnaires administered to 75 respondents and in-depth interviews with five key informants from a population of 100 employees. Data analysis was conducted using SPSS Version 20, applying descriptive statistics to summarize the data and multiple linear regression to establish relationships between variables. The findings revealed that dimensions of management support, including availability of resources, managerial participation in decision-making and frequency of training initiatives, significantly enhanced APP implementation. Similarly, elements of ICT application such as the use of e-procurement systems, data accuracy and reporting and ICT tools for communication improved efficiency, transparency and compliance in procurement processes. The study concluded that consistent and committed management support, together with effective application of ICT, are critical drivers for successful implementation of annual procurement plans in public entities. It emphasized that integrating these factors strengthens adherence to procurement schedules and budgets, while enhancing accountability and transparency. The study recommended that TANROADS institutionalize sustained resource allocation, enhance managerial oversight, invest in modern ICT systems and provide continuous staff training. Policymakers were advised to establish frameworks for management involvement and ICT adoption across public entities. Further research was suggested to assess the long-term impacts of ICT integration and compare procurement implementation effectiveness across regions and sectors.

Keywords: Management support, ICT application, annual procurement plans, public entities, TANROADS, Tanzania

1. INTRODUCTION

Implementation of annual procurement plans (APPs) in public entities involves the systematic execution of planned procurement activities to ensure timely acquisition of goods, services and works while adhering to budgets and regulatory requirements. Effective implementation depends heavily on strong management support, including adequate resource allocation, managerial participation in decision-making and provision of guidance and training, which enhance efficiency, accountability and compliance (Karimi, 2022; Shakya, 2024). Challenges such as limited resources, poor planning and insufficient managerial oversight hinder the process, often resulting in delays and inefficiencies in service delivery.

Theoretical perspectives explain the critical role of management and ICT in procurement implementation. Resource Dependence Theory (Pfeffer & Salancik, 1978) highlights that access to and control of essential resources, including skilled personnel and financial support, directly affects procurement performance. Contingency Theory (Fiedler, 1964) suggests that procurement efficiency depends on the alignment of management strategies with internal and external conditions. Additionally, Rogers' Diffusion of Innovation Theory (1962) emphasizes that the adoption of ICT solutions in procurement requires organizational readiness and managerial backing.

Globally, ICT application has become a key driver for enhancing procurement efficiency and transparency. Tools such as e-procurement systems, digital reporting and real-time monitoring streamline processes, improve data accuracy and reduce corruption risks (Metcalfe, 2016; KPMG, 2023). However, technological adoption often faces barriers such as limited ICT infrastructure, resistance to change and insufficient training for procurement personnel (AfDB, 2022; Achilles, 2023). Strong managerial support is therefore essential to ensure proper ICT integration, guiding staff, allocating resources and promoting effective use of digital tools.

In Tanzania, government initiatives such as the Public Procurement Act (2011, revised in 2016), the Public Procurement Regulations (2013) and the Tanzania National e-Procurement System (NEST) have aimed to strengthen APP implementation (PPRA, 2019; Odari, 2020). ICT integration has

improved transparency, reduced document loss and enhanced monitoring of procurement activities (Karimi, 2021; World Bank, 2020). Nevertheless, challenges remain, including non-compliance with regulations, limited managerial oversight, inadequate resource allocation and resistance to digital adoption, all of which affect the effective execution of procurement plans (Msuya & Mbwambo, 2022; Mfinanga & Mwemezi, 2023).

TANROADS, as a key public entity in Tanzania, relies heavily on APPs to plan road construction and maintenance projects. While steps such as budget planning and e-procurement adoption have been implemented, gaps in management support and ICT application continue to hinder successful APP execution (PPRA, 2021; Controller and Auditor General, 2022). Addressing these gaps by strengthening managerial involvement, ensuring adequate resources and fully leveraging ICT systems is crucial to improving procurement efficiency, adherence to schedules and overall service delivery in public entities.

Statement of the Problem

In Tanzania, effective procurement planning is crucial for ensuring timely project delivery, cost control and value for money in public service delivery (Mtweve, 2022). Institutions such as the Tanzania National Roads Agency (TANROADS) rely heavily on annual procurement plans (APPs) to guide road construction and maintenance projects. To support this, the government has implemented frameworks such as the Public Procurement Act and digital platforms like the Tanzania National e-Procurement System (NEST) to enhance efficiency, transparency and accountability in procurement processes (URT, 2016).

Despite these interventions, challenges in implementing APPs persist across many public entities, particularly regarding management support and ICT application (CAG, 2024). Audit reports indicate that over 40% of public infrastructure projects in Tanzania experience significant delays and cost overruns, including those under TANROADS (CAG, 2023). In Iringa Region, several road projects have faced delays exceeding 12 months and associated budget escalations, indicating gaps in managerial oversight, resource allocation and effective use of ICT systems (CAG, 2024). Without addressing these factors, procurement inefficiencies will continue, undermining project outcomes and public trust.

Previous studies in Tanzania have highlighted procurement challenges in urban regions. For instance, Komba and Mtweve (2022) noted that effective planning and managerial involvement improve budget adherence, while Ngwale et al. (2021) reported underutilization of e-procurement systems due to limited staff capacity. Kigongo (2023) further identified that insufficient ICT skills among public servants restrict the effective use of digital procurement tools. However, these studies primarily focus on major cities, leaving a knowledge gap regarding how management support and ICT application affect APP implementation in regions like Iringa. This study therefore investigates these factors to provide localized insights that can improve procurement efficiency and project performance at TANROADS.

2. LITERATURE REVIEW: THEORETICAL AND EMPIRICAL REVIEWS

The implementation of annual procurement plans in public entities is influenced by both internal resources and external pressures. The Resource-Based View (RBV) emphasizes that internal capabilities such as management support, financial resources, skilled personnel and ICT infrastructure are critical for efficient procurement outcomes (Barney, 1991; Grant, 1996). Strong management support ensures that resources are allocated effectively, decisions are timely and staff receive the necessary training, which enhances compliance with procurement plans (Karimi, 2021; Ndunguru & Mshana, 2023). Similarly, ICT application including e-procurement systems, digital record-keeping and communication tools improves accuracy, transparency and efficiency in executing procurement activities, serving as a strategic internal resource that drives operational performance (Heeks & Mundy, 2020; Msuya & Mbwambo, 2022).

Empirical evidence highlights the positive impact of management support on procurement efficiency. Studies in Tanzania and other African countries indicate that proactive managerial involvement, training initiatives and consistent oversight significantly reduce delays and cost overruns in procurement processes (Komba & Mtweve, 2023; Karimi, 2021; Mutiso & Wafula, 2022). Conversely, weak or reactive management contributes to inefficiencies, procedural bottlenecks and poor resource allocation, undermining the timely implementation of procurement plans (Mkude & Lema, 2023; Joseph & Ally, 2021). These findings reinforce the importance of strong leadership and resource mobilization as key enablers of successful APP implementation.

Similarly, the application of ICT in public procurement enhances efficiency, transparency and accountability. Studies from Tanzania, Kenya, Uganda and other African countries show that e-procurement systems, digital monitoring tools and automated reporting reduce human error, improve data accuracy and facilitate faster decision-making (Banda & Moyo, 2023; Mwaniki & Gichuki, 2023; Ochieng & Wanyama, 2023). However, challenges such as inadequate technical skills, unreliable infrastructure and limited system integration reduce the effectiveness of ICT adoption in procurement processes (Kimaro & Joseph, 2021; Mwita & John, 2022; Mushi & Hassan, 2023). Together, management support and ICT application are critical internal factors that enable public entities like TANROADS to execute annual procurement plans efficiently and achieve intended service delivery outcomes.

3. RESEARCH METHODOLOGY

This study was conducted in the Iringa Region, focusing on TANROADS, a key public entity responsible for road construction and maintenance. The organization was selected due to its critical role in implementing annual procurement plans (APPs) and managing complex infrastructural projects in the region. A cross-sectional research design was employed to capture data at a single point in time, suitable for assessing the current state of APP implementation. The target population consisted of 100 TANROADS employees involved in procurement planning and management. A mixed-methods approach was adopted: 75 employees were randomly selected to complete structured questionnaires, while five key informants were purposively chosen for semi-structured interviews to provide deeper insights into procurement processes.

Quantitative data were analyzed using descriptive statistics (frequencies, percentages and means) to identify trends and patterns. Qualitative interview data were examined through thematic analysis, organizing responses into meaningful categories aligned with the study objectives. Ethical considerations included informed consent, confidentiality, anonymity, voluntary participation, secure data storage and avoidance of conflicts of interest to ensure the integrity and credibility of the research process.

4. RESULTS AND DISCUSSIONS

This chapter presents the findings of the study aimed at assessing management support and ICT application in the implementation of annual procurement plans (APP) in public entities, with a focus on TANROADS in the Iringa Region.

Management Support on the Implementations of Annual Procurement Plans

The objective of this study was to assess how management support affects the implementation of annual procurement plans at TANROADS in the Iringa Region.

Table 1: Management Support on the Implementations of Annual Procurement Plans

Variable	Response	Frequency (=75)	Percent(%)	Mode
Management involvement in decision-making	Very Low	1	1.3	3.0
	Low	27	36.0	
	Moderate	29	38.7	
	High	9	12.0	
	Very High	9	12.0	
Availability of resources for procurement	Less than 25%	1	1.3	2.0
	25%–49%	38	50.7	
	50%–74%	13	17.3	
	75%–99%	17	22.7	
	100%	6	8.0	
Frequency of training initiatives	Never	1	1.3	2.0
	Rarely	34	45.3	
	Occasionally	29	38.7	
	Often	1	1.3	
	Very Often	10	13.3	

Source Field data (2025)

The study examined the role of management support in implementing annual procurement plans (APPs) at TANROADS, focusing on three aspects: management involvement in decision-making, availability of resources and frequency of training initiatives. Table 1 revealed a moderate level of engagement across all themes, though gaps were evident. For decision-making, 38.7% of respondents rated management involvement as moderate, 36.0% as low and only 24% as high or very high, with a mode of 3.0. Regarding resource availability, just over half of the respondents (50.7%) reported that 25–49% of needed resources were provided, while only 8% indicated full availability. Training initiatives were infrequent, with 45.3% stating they occurred rarely and 38.7% occasionally, suggesting limited capacity-building support.

Interviews reinforced these findings. On decision-making, one respondent stated:

“Management is involved in approvals, but not much in the technical discussions or needs assessment... Their participation tends to be limited to authorizing what has already been decided by the technical team” (Interview A, 20/6/2025).

Regarding resource availability, another participant noted:

“Sometimes we lack sufficient funds or materials to execute procurement plans on time and management does not intervene proactively to fill gaps” (Interview B, 20/6/2025).

On training initiatives, a respondent explained:

“Training is infrequent and often reactive. Staff learn on the job rather than through structured programs, which affects our ability to implement procurement plans efficiently” (Interview C, 20/6/2025).

The findings indicate that management support is inconsistent, with engagement often reactive rather than proactive, resources not fully allocated and training opportunities limited. This partial support reduces efficiency, delays decision-making and hinders alignment between procurement requirements and operational needs. These findings are consistent with Kimaro and Nchimbi (2022) in Tanzania, who concluded that continuous managerial involvement throughout the procurement cycle enhances efficiency and transparency. From the perspective of Institutional Theory, management support reflects the formal structures and rules that guide organizational behavior, reinforcing compliance and legitimacy in procurement processes (Scott, 2014). Similarly, Resource-Based Theory suggests that effective management constitutes a critical organizational resource that, when strategically applied, improves coordination, responsiveness and overall effectiveness (Barney, 1991). While Mwangi and Otieno (2022) in Kenya emphasized the benefits of active top-management participation, the moderate engagement observed at TANROADS indicates potential for strengthening leadership presence to enhance procurement outcomes.

Level of ICT Application in Enhancing the Implementation of Annual Procurement Plans

The objective of this study was to analyze the extent to which information and communication technology (ICT) is applied in enhancing the implementation of annual procurement plans at TANROADS in the Iringa Region.

Table 2: ICT Application in Enhancing the Implementation of Annual Procurement Plans

Variable	Response	Frequency	Percent	Mode
ICT Tools for Communication	Very Ineffective	1	1.3	4.0
	Ineffective	2	2.7	
	Neutral	26	34.7	
	Effective	33	44.0	
	Very Effective	13	17.3	
Usage of E-Procurement Systems	Never	2	2.7	3.0
	Monthly	6	8.0	
	Weekly	29	38.7	
	Daily	27	36.0	
	Multiple times daily	11	14.7	
Data Accuracy and Reporting	Very Low	2	2.7	4.0
	Low	8	10.7	
	Moderate	29	38.7	
	High	30	40.0	
	Very High	6	8.0	

Source Field data (2025)

The study assessed ICT application at TANROADS across three themes: ICT tools for communication, usage of e-procurement systems and data accuracy/reporting. Table 2 revealed generally moderate to high effectiveness, although variations existed. For communication tools, 44% of respondents rated them “Effective” and 17.3% “Very Effective,” with 34.7% neutral. E-procurement usage was frequent: 38.7% used the system weekly, 36% daily and 14.7% multiple times daily, indicating strong adoption. For data accuracy, 40% rated reporting as “High” and 38.7% as “Moderate,” demonstrating ICT’s role in reliable procurement documentation.

Interviews reinforced these findings. Regarding communication tools, one participant stated:

“ICT systems like NEST enable instant updates on procurement activities... Overall, these tools have improved our ability to manage procurement tasks efficiently” (Interview A; 24/6/2025).

On e-procurement usage:

“We use NEST almost every day to submit purchase requests and monitor approvals... Regular usage has made our procurement process more transparent and efficient” (Interview A; 25/6/2025).

On data accuracy and reporting:

“Our e-procurement system allows us to record every transaction accurately and generate reports instantly... It has improved accountability and reduced disputes in procurement processes” (Interview A; 26/6/2025).

Overall, ICT tools at TANROADS enhance communication, streamline workflows and improve reporting reliability. Some challenges remain, including uneven system adoption, limited staff training and occasional connectivity issues, but the positive impact on efficiency, transparency and coordination is evident. These findings align with empirical studies and can be interpreted through Institutional Theory and Resource-Based Theory. According to Institutional Theory, the adoption of ICT in public procurement promotes standardized procedures and accountability, shaping organizational behavior toward efficiency and transparency (Scott, 2014). Resource-Based Theory emphasizes that ICT capabilities, such as accurate data management and reporting, constitute valuable organizational resources that enhance decision-making and operational effectiveness (Barney, 1991). Empirically, Msuya and Mbwapbo (2022) found that e-procurement improves data accuracy and reduces human error, while Heeks and Mundy (2020) and Khatri and Sharma (2022) highlighted that ICT adoption ensures better record-keeping and informed decision-making. The TANROADS results reinforce these conclusions, showing that accurate data and systematic reporting are essential for efficient and transparent procurement operations.

5. CONCLUSION AND RECOMMENDATIONS

The study concluded that both management support and ICT application significantly influence the effective implementation of annual procurement plans at TANROADS in the Iringa Region. Management involvement was often moderate and reactive, with gaps in resource allocation and training, while ICT tools enhanced communication, e-procurement usage and data accuracy, contributing to greater efficiency and transparency. To strengthen procurement outcomes, TANROADS should enhance proactive managerial engagement across all procurement stages, ensure consistent allocation of resources, expand structured training programs and promote full adoption and optimization of ICT systems, including regular staff capacity-building and improved connectivity. These measures would foster better coordination, accountability and timely execution of procurement plans.

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