Effectiveness of Performance Contract Monitoring and Reporting in Enhancing Development of Physical Infrastructure in Public Technical Training Institutes in Kenya: A Case Study of Technical Training Institutes in Kakamega County

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ABSTRACT

Performance Contracts of Technical Training Institutes (TTIs) in Kenya are annual, negotiated agreements between the institutions' Boards of Governors and the Ministry of Education for the periods July 1st to June 30th based on cycles for respective Financial Years. These contracts are designed to improve service delivery, physical facilities, infrastructure, ensure accountability and align with Competency Based Education and National Goals such as Vision 2030. Once performance contracts are signed, performance is monitored and reported quarterly with financial evaluations conducted by the Public Service Performance Management Unit (PSPMU). Reports are submitted online to the Ministry of Education and related agencies. The objective of the study was therefore to establish the effectiveness of Performance Contract (PC) monitoring and reporting in enhancing development of physical infrastructure in public Technical Training Institutes in Kakamega County. The Context, Input, Process and Product (CIPP) evaluation model by Daniel L. Stufflebeam (1966) was used to examine the effectiveness of performance contract monitoring and reporting in enhancing the development of physical infrastructure in public TTIs in Kenya. Interview schedules, document analysis guides, Observation schedules and Focus Group Discussions were used for data collection. The study established that PC Monitoring and reporting were effective as more than 80% of the infrastructure development targets were achieved. The study recommended that Ministry of Education should institutionalize participatory performance contract Monitoring and Reporting that mandate structured consultation with principals, Heads of Department and technical staff. The Ministry of Education should make it a requirement that all monitoring and reporting planning processes incorporate feasibility studies and audits of available financial, technical, and human resources, thereby reducing the likelihood of stalled or partially completed projects thereby reducing the likelihood of the effectiveness in enhancing the provision of physical infrastructure. The findings of this study are significant to the Government of Kenya as they inform Policy Formulation processes and review in Performance Contracting. It also forms a baseline information for Principals of public TTIs in making proposals for related performance contracting aspects.

Keywords: Effectiveness, Performance Contract Monitoring, Reporting, enhancing Development, Physical Infrastructure, Public Technical Training Institutes, Kenya: case, study Technical Training Institutes, Kakamega County

INTRODUCTION

Performance Contract System originated in France in the late 1960s and has been used in about 30 developing countries in the last fifteen years. In Latin America, they have been used at different times in Argentina, Brazil, Bolivia, Chile, Colombia, Mexico, Uruguay and Venezuela. Other countries include Malaysia, United Kingdom, U.S.A, Canada, Denmark and Finland among others. In Asia, the Performance Contract concept has been used in Bangladesh, China, India, Korea, Pakistan and Sri Lanka. In Africa, performance Contracts have been used in selected enterprises in Benin, Burundi, Cameroon, Cape Verde, Congo, Cote d'Ivoire, Gabon, the Gambia, Ghana, Guinea, Madagascar, Mali, Mauritania, Morocco, Niger, Senegal, Togo, Tunisia, Zaire and now Kenya (Court, 2010).

Recent global reviews highlight that performance agreements can enhance infrastructure development by creating clearer accountability for project implementation, improving monitoring and evaluation mechanisms, and strengthening alignment between institutional resource allocation and national skills-development agendas (UNESCO, 2022; World Bank, 2023). Nevertheless, the effectiveness of these tools varies across contexts, largely depending on institutional capacity, resource availability, and the robustness of monitoring systems. Luke and Thoronjo, (2021) concluded that performance contracting greatly influence organization performance by asserting more effort by employees to their duties and tasks as well as motivating employees by rewarding them based on the results of evaluation. Introduction of a well-defined system with appropriate and relevant Performance Contracting (PC) strategies in Kenyan technical training institution improved curriculum implementations as most tutors taught as per the course syllabus, covered syllabus in time and administered examinations as per course outlines as well as providing the relevant instructions materials and equipment in time. Further, regression analysis indicated that these strategies had positive influence performance in examination, (Kilonzo *et.al*. 2021). Kemboi (2024) argue that performance contracting improves infrastructural development, financial management, employee commitment and allows creativity in both service and products.

In Kenya, PCs have been employed in public sector institutions to link performance appraisal with financial and non-financial incentives, motivating institutional leaders to achieve infrastructure and service targets (Gichuki & Mbithi, 2021). Kenya has been at the forefront of public sector performance reform in Africa, with Performance Contracting emerging as a central pillar of its results-based management framework. Since the early 2000s, the Government of Kenya has implemented PCs across Ministries, Departments, Agencies, State Corporations, public universities, and increasingly within Technical Training Institutions. The objective has been to institutionalize a culture of accountability, improve efficiency in resource utilization, enhance service delivery, and align institutional outputs with the goals of the national development agenda, including Vision 2030, the Medium-Term Plans, and the Bottom-Up Economic Transformation Agenda. At the same time, global attention has increasingly turned to the role of Technical and Vocational Education and Training systems in addressing skills shortages and driving economic competitiveness. International organizations such as the International Labour Organization UNESCO-UNEVOC, and the World Bank consistently note that the effectiveness of TVET systems depends significantly on the quality, adequacy, and modernity of physical infrastructure, including workshops, laboratories, ICT facilities, and training equipment (UNESCO-UNEVOC, 2021; ILO, 2022; World Bank, 2023).

Nyongesa and Van der Westhuizen, (2023) conclude Kenya's government face community pressure to enhance service performance but no improvement due to privatization, voluntary early retirement, or reorganization making performance contracting an option for improved service delivery. Despite the demonstrated potential of Performance Contract, empirical studies consistently identify implementation challenges. Top-down approaches often dominate, limiting inclusion and practical feasibility at departmental and technical levels (Otieno & Wambua, 2021; Nyaga, 2022). In Kenya, research in TVET institutions found that although targets and plans were formally set, delays in funding, disbursement, procurement bottlenecks, and limited engagement of technical staff frequently stalled project execution (Muriithi & Wanjiku, 2020).

For TVET institutions, PCs represent a potential mechanism for ensuring that investments in physical infrastructure translate into improved instructional quality and labor-market relevance. However, global evidence also shows that performance-based systems often face challenges such as limited institutional capacity, constrained funding, and misalignment between centrally defined targets and local realities factors that may weaken the effectiveness of PCs in achieving infrastructure-related outcomes (OECD, 2020; UNESCO, 2022). These global patterns provide a conceptual foundation for examining how performance contracting functions within specific national and sub-national contexts, such as Kenya's public TVET institutions. Collectively, these theories provide a multidimensional understanding of how performance contracts influence infrastructure development in public technical training institutions. Goal-setting theory emphasizes clear and participatory target formulation; RBM focuses on practical, results-oriented planning; principal–agent theory explains accountability mechanisms through monitoring and reporting; and institutional theory underlines legitimacy, compliance, and adaptive evaluation. Together, they form a robust theoretical foundation for examining how PCs affect infrastructure delivery, resource utilization, and organizational performance in Kakamega County, Kenya.

Public sector reforms have become a common phenomenon around the globe, especially in developing countries. This has become the way of accountability to the needs of the taxpayers. One of the key priorities of the Kenya Government is to implement and institutionalize public sector reforms that would lead to an efficient, effective and ethical delivery of services to the citizens. The government started implementing public sector reforms way back in 1993 with the aim of improving service delivery. While there have been successes and challenges in the implementation of reforms in public service, different concepts and newer interventions have been introduced in the recent years. One such intervention relates to performance contracting in the state corporations and government ministries. Performance contracting is part of the broader public sector reforms aimed at improving accountability, efficiency and effectiveness in the management of public affairs. Public Technical Training Institutions in Kakamega County being under the Ministry of Education have not been left out in this practice. Public TTIs have been increasing in number over the years to match the high demand of trainees seeking admission.

Public Technical Training Institutions (TTIs) in Kakamega County served as key pillars for skills development, providing competency-based education aimed at preparing graduates for employment and entrepreneurship in technical and vocational fields. These institutions are mandated to implement Competency-Based Education and Training, ensured compliance with the Technical and Vocational Education and Training Authority (TVETA) standards, and align curricula with national development priorities, including industrialization and job creation (TVETA, 2023; Ministry of Education, 2022) their ability to deliver quality technical training. Common challenges included inadequate and outdated workshop spaces and laboratories; Insufficient ICT and digital learning facilities; Aging classrooms and trainee accommodation; Limited access to specialized machinery and equipment; Irregular maintenance and refurbishment of existing facilities. These challenges are exacerbated by rapid enrollment increases, which strain existing facilities and compromise hands-on training essential for CBET implementation. Inadequate infrastructure has been linked to lower training quality, reduced trainee satisfaction, and diminished employability of graduates (UNESCO-UNEVOC, 2022; World Bank, 2020).

Performance contracts (PCs) had been introduced to address such challenges by linking institutional accountability with measurable outcomes, including infrastructure development targets. Typical PC indicators for TTIs included the construction of new training blocks, rehabilitation of workshops and laboratories, installation of modern equipment, and compliance with TVETA quality standards. Empirical studies in Kenya have shown that PCs can improve priority-setting, resource allocation, and monitoring of institutional projects (Otieno & Wambua, 2021; Ministry of Education, 2022). However, the effectiveness of PCs in translating targets into tangible infrastructure outcome was influenced by multiple factors, including institutional leadership, technical and financial capacity, procurement processes, and intergovernmental coordination between national and county governments.

Synthesis of Literature on Effectiveness of Performance Contracts Monitoring and Reporting in Enhancing Development of Physical Infrastructure in Public Technical Training Institutes

Monitoring, reporting and evaluation have advanced over the period, reflecting shifts in perspective in administrative projects as they have been used in analyzing the progress of the program over time, offering reasons for venture status, (Githaiga & Mutundu, 2022). Effective monitoring and reporting systems under PCs significantly improve transparency, resource utilization, and project completion. Effective monitoring clarifies roles, establishes accountability, and minimizes risks such as moral hazard and shirking. Modern practices under PCs, including structured periodic monitoring and digital reporting systems, provide timely feedback, facilitate corrective actions, and ensure that departmental and institutional performance aligns with national policy goals (Otieno & Wambua, 2021 & Nyaga, 2022).

In South Africa, Mthethwa (2020) reported that schools and colleges with structured monitoring protocols involving departmental and technical staff experienced improved adherence to timelines, better budget control, and higher rates of infrastructure project completion. In Ghana, Osei-Tutu and Asare (2021) demonstrated that participatory reporting, where technical and administrative staff jointly review progress against PC targets, led to enhanced compliance, more effective resource allocation, and stronger institutional ownership of infrastructure projects. Mthethwa, (2020); Asare and Boateng, (2021) indicated that South African and Ghanaian

TVET institutions, support the assertion that transparent and continuous monitoring enhances adherence to targets and improves infrastructure outcomes

Evidence from Uganda further highlights that integration of monitoring with feedback and evaluation mechanisms is critical for sustaining infrastructure project performance. Similarly, Mugisha and Basheka (2020) showed that Ugandan universities that embedded structured monitoring systems within their PC frameworks were able to track progress effectively, adjust resource allocations dynamically, and enhance infrastructure delivery outcomes. Mayanja, (2020) put it that Uganda developed a National Monitoring and Evaluation Policy for the Public sector, for a framework for all public sector entities to follow up their performance. However, the policy was not disseminated correctly and public sector entities were not sufficiently compelled to undertake participatory monitoring and evaluation as an approach. He recommended higher education institutions to use Participatory Monitoring and Evaluation approach that higher education institutions to achieve objectives such as, quality academic programs, research, consultancies, outreach services and administrative functions.

Dahir and Mose (2024) studied how Participatory Monitoring and Evaluation affects affordable housing performance in Kenya's metro counties (Nairobi, Kajiado, Machakos, Kiambu), the findings indicated PME practices like stakeholder involvement and planning significantly boost project success (time, cost, quality) and there is strong links between Monitoring and Evaluation planning, stakeholder participation, and better project outcomes, with communication and engagement being crucial drivers. The researcher recommends strengthened feedback, digital tools (like BIM), & risk management for improved accountability and efficiency. Khatete, (2020) revealed monitoring of teachers on reporting on duty and leaving from duty improved their stay in school creating more contact time between teachers and learners in school, the monitoring of teacher class attendance improved teachers' syllabus coverage as majority of schools completed the syllabus coverage in time. Teachers did revision to prepare students for examinations and promotion to the next grades. In addition, the strategies used to monitor teachers' attendance on duties resulted into good achievements.

According to Republic of Kenya, (2024) best practice in Performance Management requires that progress in implementation of the PC is monitored and reports prepared to assess the extent of achievement of the set targets in order to inform decision-making. Ministry Department and Agency are encouraged to undertake self-reporting as part of promotion of good governance. Ministry Department and Agency are required to prepare and submit quarterly performance reports within 15 days following the end of a quarter and the annual performance reports within 30 days after the end of the contract period. The reports should be prepared and submitted online using the Monitoring and Reporting Module in the GPCIS.

THEORETICAL FRAMEWORK

The implementation and effectiveness of PCs in public TTIs can be understood through multiple theoretical lenses. Key theories include: Principal–Agent Theory Stephen Ross (1973), Barry Mitnick (1970s) and Michael Jensen and William Meckling (1976) which provides a foundational lens, explaining the relationship between a government ministry, and an agent, such as a TTI principal, in terms of delegation, accountability, and alignment of incentives (Eisenhardt, 2018). Within the context of PC target-setting, this theory highlights how clearly defined responsibilities and performance expectations reduce information asymmetry between principals and agents, thereby promoting compliance and ensuring that infrastructure goals are effectively pursued. Results-Based Management (RBM) Theory further informs understanding of PC implementation by focusing on the systematic linkage of inputs, processes, outputs, and outcomes to achieve measurable results (UNDP, 2020). Results based Organization provides the conceptual foundation for monitoring and reporting under PCs, emphasizing the need for evidence-based tracking of progress and performance. By ensuring that resource utilization and project activities are continuously assessed against agreed-upon indicators, RBM supports informed decision-making and efficient allocation of resources in infrastructure development.

Finally, Institutional Theory explains how organizational behavior and performance are shaped by formal rules, normative pressures, and governance structures within which public institutions operate (DiMaggio & Powell, 2019; Scott, 2020). Applied to PC planning and the evaluation of PCs, this theory illuminates how compliance with national policies, legal frameworks, and institutional performance standards influences TTI practices in

assessing the effectiveness of PCs in enhancing development of infrastructure projects. Institutional pressures drive adherence to established norms and procedures, ensuring that PC planning and evaluation processes are systematic, transparent, and aligned with broader policy objectives. Conceptually, PCs are grounded in performance management theory, which posits that clearly defined targets, PC planning, aligned incentives, and systematic monitoring can enhance organizational efficiency and service delivery (Armstrong & Baron, 2005). Empirical studies have highlighted both the strengths and limitations of PCs in public institutions. Performance Contract planning provide a structured framework for setting priorities, allocating resources, and tracking progress, which can improve transparency and institutional accountability and challenges such as top-down target setting, limited inclusivity, unrealistic expectations, and inadequate capacity for monitoring and evaluation have been identified as constraints that reduce the effectiveness of PCs planning in achieving intended outcomes (OECD, 2020; Ministry of Education, 2022).

CONCEPTUAL FRAMEWORK

The conceptual framework was informed by the Context, Input, Process, and Product (CIPP) Evaluation model originated by Daniel L. Stufflebeam in 1966. Context, Input, Process, and Product evaluation model is a comprehensive model that is designed to evaluate effectiveness of programs, projects *inter alia*. In this respect, the Context, Input, Process, and Product Evaluation model was adapted as shown in Table 1.

Table 1 Context, Input, Process, and Product Evaluation Model of examining effectiveness of Performance Contract Monitoring and Reporting in enhancement of Physical Infrastructure in Public Technical Training Institutions (Adapted from Stufflebeam, 1966)

Context Evaluation	**Input Evaluation**	**Process Evaluation**	**Product Evaluation**
• Technical Training Institute Physical infrastructure development through monitoring and reporting: workshops, sheds, lecture rooms, washrooms, playground, offices, walkways, ramps, alleys, lifts water points	• Stakeholders - Principal of TTIs - Heads of Department - Trainers - Trainees - Support staff	• Examination of monitoring reporting reports	• Report on completeness of - Laboratories - Hostels - Staff houses - Offices - Lecture rooms - Workshops - Shades - Library - Playgrounds - Amenities - Entertainment centres - Recreation site - Sports centres - Student centres
Quality of materials	Principals of TTIs	Vetting	Portfolio of Evidence
Functionality of apparatus, materials, equipments	Strategic plan - Budget	Monitoring and Evaluation reporting	Evidence based on observation

	- TTI signed performance contract		
Problems and challenges associated with infrastructure	Inclusivity of monitoring and reporting processes	Online submission of reports	Corroboration and triangulation approach
Financial status	Alignment with institutional priorities and available resources	Submission, Portfolio of Evidence	Triangulation
Human resource	Expertise of workforce in terms of qualification and experience	Identification of monitoring and reporting gaps	Document analysis and Portfolio of Evidence
Explicit allocation of financial resources	Budget	Portfolio of Evidence	Corroboration and triangulation approach
Consideration of risks and contingencies	Contracts	Portfolio of Evidence	Corroboration and triangulation approach
Governance structures	Contracts	Portfolio of Evidence	Corroboration and triangulation approach

Table 1 is the Context, Input, Process, and Product Evaluation model adapted from Stufflebeam 1966. The model was used to guide the examination of effectiveness of PC planning in enhancing the development of physical infrastructure in public training institutes in Kenya, using Kakamega as the site for the study specifically PC planning is undertaken to facilitate provision of physical facilities in TTIs..

The first step was to undertake context evaluation, which included Technical Training Institute Physical infrastructure development through monitoring and reporting in terms of Quality of materials, Functionality of apparatus, materials, equipment, Problems and challenges associated with infrastructure development, Financial status, Human resource, explicit allocation of financial resources and Consideration of risks and contingencies. On this basis step II that is, Input evaluation monitoring and reporting was undertaken covering Stakeholders, State department of TVET, Strategic plan, inclusivity of planning process and alignment with institutional priorities and available resources. Step II translated to Step III that is, monitoring and reporting in terms of management of challenges and improvement, implementation of performance contract and Identification of monitoring and reporting gaps. Step III culminated into step IV product or output evaluation which was the measure or indicator of outcomes effectiveness. That is, Completeness of projects; Laboratories, Hostels, Staff houses, Offices, Lecture rooms, Workshops, Sheds, Libraries, Playgrounds, Amenities, Entertainment centres, Recreation sites, Sports centres and Student centres depending on individual institution's needs. The degrees of completeness, indicative of effectiveness were as the performance contracting guidelines.

In a nutshell the conceptual framework postulates that effectiveness of Monitoring and Reporting was deduced by invoking analytically the impact of monitoring and reporting as was linked to the output or product observed domain-wise which included frequency and consistency of monitoring, assigned responsibilities for monitoring activities, use of tools, indicators, and reporting frameworks, sharing and utilization of monitoring reports, Management of challenges during project implementation and suggested improvements to monitoring processes. The expected outcome would be robust monitoring and reporting systems that ensure timely corrective actions, better accountability, and improved project delivery. Effectiveness of Evaluation of PCs under which indicators such as frequency and timing of evaluations, internal versus external evaluation mechanisms, tools and frameworks applied during evaluation, utilization of feedback for planning and target-setting, impact on infrastructure quality and delivery and gaps in evaluation and recommendations for improvement, were considered. Expected outcome would be systematic and inclusive evaluations that provide lessons learned, promote adaptive planning, monitoring, reporting, and enhanced infrastructure development outcomes. Intervening variables such as timely resource availability that is budget, human capital and technical expertise;

institutional capacity and governance structures; bureaucratic procedures and systemic bottlenecks; and stakeholder engagement and organizational culture. The focus was on physical infrastructure development under which construction, renovation, and maintenance of infrastructure units such as classrooms, laboratories, workshops, hostels and administrative facilities; Timeliness, quality, and completion rates of projects; and alignment with institutional needs and strategic goals. The framework posits that effective target setting guides planning; effective planning, in turn, guide-monitoring reporting which facilitates project implementation. Monitoring and reporting act as control and feedback mechanisms to ensure alignment with targets, while evaluation provides lessons for continuous improvement. Contextual factors such as resource adequacy and governance structures moderate these relationships, influencing the ultimate outcome that is, enhanced physical infrastructure development.

RESEARCH METHODOLOGY

The study design applied was a descriptive survey research. Six public Technical raining Institutes principals, 6 PC coordinators, 16 Heads of Departments, 16 Technical Staff and 12 Implementers were selected by saturated use of purposive sampling technique. Interview schedules, document analysis guides, Observation schedules and Focus Group Discussions were used for data collection. Face and content validity was established by experts in the faculty of Education. Reliability was established by piloting study in two institutions and calculating inter-rater reliability for qualitative instruments. Quantitative data was analyzed using descriptive statistics in form of frequency counts and percentages. Qualitative data from interviews and document analysis guide were transcribed and analyzed for content in emergent themes and sub themes.

RESULTS

Table 2: Demographic Data of Respondents

Characteristic	Frequency	Percentage
Designation		
• Principals	6	10.0
• PC Coordinators	6	10.0
• Heads of Departments	16	26.7
• Technical Staff	16	26.7
• Implementers	12	20.0
Years of Service		
• < 5 years	9	15.0
• 5–10 years	22	36.7
• 11–15 years	17	28.3
• >15 years	12	20.0
Involvement in PC		
• Direct	49	81.7
• Indirect	11	18.3
PC Participation Areas		
• Target Setting	42	70.0
• Planning	38	63.3

• Monitoring & Reporting	35	58.3
• Evaluation	30	50.0
Formal PC Training		
• Yes	27	45.0
• No	33	55.0
Level of Education		
• Diploma	14	23.3
• Bachelor's degree	26	43.3
• Postgraduate	20	33.3

The respondent pool included 20% senior management (Principals and PC Coordinators) and 80% operational or mid-level staff (HODs, Technical Staff, Implementers). This distribution ensures that the study captures both strategic oversight and practical implementation perspectives important for robust triangulation of managerial and operational insights (Bryson, Crosby, & Bloomberg, 2022). With 65% of respondents having 5–15 years' experience, the sample comprises individuals with substantial institutional memory and familiarity with PC processes. Qualitative methodology research suggests that such a mix of tenure allows for capturing both institutional history (through longer-serving staff) and fresh perspectives (through newer staff), thereby enhancing interpretive depth (Guest et al., 2021).

A large majority (81.7%) reported direct involvement in PC activities. Among those, participation was highest in target-setting (70%) and planning (63.3%), but dropped for monitoring, reporting, and evaluation with evaluation participation lowest at 50%. This pattern reflects findings in contemporary performance-management research where early phases of contract implementation often engage more staff compared to later evaluative stages (OECD, 2021). Only 45% had received formal training related to performance contracting. This suggests that more than half the staff may rely on informal learning or institutional on-the-job orientation. Recent literature notes that lack of structured training undermines the institutionalization and consistency of performance management practices (Mwenda & Kimani, 2022). The majority of respondents (76.6%) held at least a bachelor's degree, with 33.3% were at postgraduate level. A relatively well-qualified staff base enhances capacity for strategic planning, data interpretation, and evidence-based decision-making factors identified as critical for effective performance management in public institutions (World Bank, 2020). The demographic profile of respondents supports the trustworthiness of data, offering a wide and relevant cross-section of institutional actors with diverse backgrounds, tenures, and roles. While representatives in the statistical sense are not the primary aim of qualitative research, this breadth supports credibility, richness, and contextual validity of the study findings (Creswell & Poth, 2018).

Research Objective

The research objective was to establish effectiveness of performance contract monitoring and reporting in enhancing development of physical infrastructure in public technical training institutes.

Effectiveness of monitoring and reporting systems in ensuring timely and accountable implementation of physical infrastructure projects under performance contracts within public technical training institutions was examined. The study explored the frequency and scope of monitoring, clarity of roles and responsibilities, use of monitoring tools and indicators, reporting practices, management of challenges, and opportunities for improving monitoring and reporting processes. Multiple respondents were engaged according to their strategic, operational, and technical responsibilities Principals, PC Coordinators, Heads of Departments, Technical Staff and Implementers. The study assessed six key domains of monitoring and reporting effectiveness: Frequency of Monitoring that examined how often monitoring visits were conducted, presence of formal monitoring schedules, and the average number of visits per project. Principals confirmed institutional monitoring intervals, PC Coordinators tracked actual frequencies, while HODs contributed minimally to overall frequency reporting;

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Responsibility for Monitoring which evaluated designation of officers or committees responsible for monitoring, clarity of roles, and cross-departmental participation.

Principals defined institutional accountability, PC Coordinators coordinated and supervised monitoring, and HODs participated at the departmental level; Tools and Indicators used that investigated adoption of standardized templates, key performance indicators (completion %, timelines, budget utilization), and documented evidence of tool application. While principals oversaw adoption, PC Coordinators applied and documented tools, and HODs provided technical progress data; reporting practices that assessed generation, dissemination, and utilization of periodic monitoring reports, their sharing with Boards of Management (BOM), departments, and other stakeholders, and whether reports informed decision-making. Principals received reports for strategic use as PC Coordinators compiled and submitted reports, and HODs applied reports for departmental adjustments; Management of challenges that reviewed how documented challenges were addressed, corrective actions implemented, and resolution timelines maintained. Principals intervened at the strategic level, PC Coordinators documented and escalated challenges, and HODs implemented corrective measures at the departmental level; and, Improvements in Monitoring and Reporting which explored recommendations for digital systems, staff capacity building, and integration of feedback loops from planning through reporting. Principals suggested systemic improvements while PC Coordinators recommended operational enhancements, and HODs suggested practical technical improvements.

Principals practiced strategic oversight, accountability, high-level intervention, and decision-making based on monitoring reports; PC Coordinators were core monitoring drivers and in charge of documentation, supervision, escalation, and reporting; HODs were technical contributors and in charge of departmental monitoring, operational corrective actions, and progress verification; and, Technical Staff and Implementers were in charge of Ground-level execution, feedback on monitoring, and practical reporting insights. This stakeholder mapping ensured a complementary approach across strategic, operational, and technical levels, providing a comprehensive assessment of the monitoring and reporting systems' effectiveness. The findings were as shown in Table 4.5.

Table 3 Triangulation Summary for effectiveness of PC Monitoring and Reporting in enhancing Development of Physical Infrastructure

Domain	**Principals**	**PC Coordinators**	**HODs**	**Technical Staff**	**Implementers**	**Triangulated Conclusion**
Frequency of Monitoring	Scheduled, quarterly /biannual	Varied, sometimes delayed	Minimal role	Rarely engaged	Not consulted	Formal schedules exist but are inconsistently implemented, leaving ground staff uninvolved.
Responsibility	Strategic oversight	Core driver	Partial, often sidelined	Not involved	Not involved	Accountability strong at top, weak at operational/technical levels.
Tools & Indicators	Aware of templates	Actively use tools	Provide technical data	No access	No access	Tools applied but ownership lies with coordinators; lower-level actors excluded.
Reporting Practices	Receive and use for decisions	Compile and submit	Partial access for adjustments	No access	No access	Reporting is upward-focused; poor dissemination to ground-level actors.

Management of Challenges	Escalate systemic bottlenecks	Document & escalate	Manage operational issues	Face unresolved challenges	Face unresolved challenges	Challenges addressed unevenly; weak feedback loops delay resolution.
Improvements	Digital systems, policy support	Capacity building, digitization	Department -level committees, feedback loops	Direct access to reports	Direct access to reports	Broad consensus on need for digitization, inclusivity, and improved feedback.

Domain 1: Frequency of Monitoring

Among the six principals interviewed, there was a consensus that monitoring of infrastructure projects under PCs was structured but uneven across institutions. Five principals (83%) confirmed that their institutions had established formal monitoring intervals, often tied to quarterly PC reporting cycles. One Principal (17%) acknowledged that while a schedule existed, actual monitoring visits were "ad hoc" and largely dependent on the availability of funds for supervision or BOM approval. Principal-1 stated: "We strive to have quarterly monitoring visits, but sometimes resource constraints mean that some projects are only reviewed bi-annually," while Principal-4 noted: "Our PC targets guide us to check every quarter, though practically we follow the disbursement cycle. If there is no money flowing, monitoring becomes theoretical." Data from document analysis revealed that institutional PC monitoring schedules and BOM minutes corroborated principals' claims, that is, in 3 institutions (50%), documented monitoring schedules clearly outlined quarterly visits, tied to PC milestones and reporting deadlines in 2 institutions (33%), schedules were present but not consistently updated, with evidence of missed quarters. In one institution (17%), monitoring relied on ad hoc arrangements, with no evidence of scheduled visits in the PC files. Site visits confirmed these patterns where institutions with documented schedules. For instance, some institutions had updated monitoring charts and checklists displayed in project offices. Other institutions without consistent schedules had project progress lagging behind targets, and no recent monitoring notes were available at the site level.

Principals consistently presented monitoring as aligned with PC requirements, particularly quarterly review cycles. This was supported by documentary evidence in half of the institutions and observations in about a third. However, the discrepancy between planned schedules and actual implementation revealed that resource availability, especially supervision funds significantly influenced monitoring frequency. Thus, while at the strategic level principals ensured schedules existed (83%), effectiveness in practice varied. Institutions with strong Board of Management oversight and proactive PC coordinators demonstrated more consistent monitoring, while those with weaker financial capacity relied on ad hoc checks. PC Coordinators, who serve as the operational anchors of monitoring, consistently emphasized the importance of regular and structured monitoring cycles. All six coordinators (100%) confirmed that their institutions had written schedules stipulating monitoring frequencies. However, discrepancies emerged between planned intervals and actual execution. Four PC coordinators (67%) reported that monitoring was carried out quarterly as planned, closely aligned with PC timelines and BOM oversight requirements while 2 (33%) admitted that although monitoring schedules existed, actual site visits were less frequent that is, sometimes only twice a year due to logistical and funding constraints. PC Coordinator 2 explained: "We always prepare a monitoring calendar tied to the PC, but actual visits depend on funds. In some cases, we carry out desk reviews instead of full site inspections," while PC Coordinator 4 reflected on the reliance on reports rather than site evidence: "We sometimes do more paper monitoring than physical monitoring, which is not ideal but necessary given the budget situation."

Review of institutional records showed that monitoring schedules were indeed documented in all six institutions, though implementation varied with 4 institutions (67%) having quarterly monitoring reports filed, aligned with PC requirements while 2 institutions (33%) had gaps, with at least one quarter missing documentation of monitoring visits. In one institution, reports suggested monitoring was "merged" across two quarters to save resources. Observation revealed that during field visits, evidence of monitoring in the form of checklists, signed site visit reports, and progress charts was visible in 3 of the 6 institutions (50%). In the remaining institutions,

coordinators relied more heavily on procurement and financial reports rather than technical site inspections, corroborating their admissions during interviews. PC Coordinators provided a more operationally grounded perspective than principals. While principals emphasized that schedules existed (83%), coordinators revealed the implementation gaps. Their testimony, supported by missing reports and observation in a third of institutions, showed that monitoring was sometimes more "documentary" than physical. This distinction illustrates a structural weakness in resourcing monitoring functions: although strategic intent is in place, practice is constrained by financial and logistical realities.

Heads of Departments participated in monitoring largely at the departmental or project-specific level, with their involvement tied to technical inputs rather than institutional oversight. Ten HODs (63%) indicated that they were involved in monitoring "when projects touched their departments," such as installation of workshops, laboratories, or ICT infrastructure while 6 (37%) stated they were rarely involved, unless specifically invited by the PC Coordinator or project committee. HOD 9 in charge of an engineering department explained: "We only get involved when the infrastructure is being installed in our department; otherwise, monitoring is left to the administration and PC team," while HOD 5 highlighted the reactive nature of their participation: "I usually join monitoring visits when requested, but it is not routine. Our role is mainly to confirm whether equipment or facilities meet the technical requirements." This limited role illustrates that while HODs provide technical validation they are not consistently integrated into the institutional monitoring schedules.

Data from review of monitoring records across institutions confirmed this limited role as in 5 out of 6 institutions (83%), monitoring reports contained technical annexes signed off by HODs, often verifying installation quality or confirming departmental needs while in only 2 institutions (33%), HODs were listed as members of the monitoring committees, suggesting that their inclusion at the institutional level was sporadic. During site visits, observation confirmed that in cases where infrastructure projects were department-specific, for instance, in construction of a laboratory or refurbishment of a workshop, HODs were actively engaged, sometimes even leading the technical inspection. In contrast, for general infrastructure projects such as classrooms or hostels, HODs' presence in monitoring was less visible. Compared to principals and PC coordinators, HODs' role in monitoring frequency was reactive and technical rather than scheduled and institutional. Principals (83%) and PC coordinators (100%) emphasized structured monitoring schedules, but HODs revealed that their involvement was contingent and selective. Data from document analysis revealed their signatures on technical annexes supports their participation in quality checks, yet their absence from committee records in most institutions confirms their limited influence on monitoring regularity. Thus, while HODs added critical technical oversight, they did not significantly shape or sustain the frequency of monitoring. Their contribution ensured quality assurance at the departmental level but left gaps in holistic institutional monitoring.

Domain 2: Responsibility for Monitoring

Principals, as institutional heads, bore ultimate responsibility for monitoring PC infrastructure projects. All six principals (100%) emphasized that monitoring responsibilities were anchored at the top level of institutional governance and cascaded downwards through delegated committees. Their role was primarily one of strategic oversight, accountability, and decision-making. Principal -1 explained: "Monitoring is my responsibility as the accounting officer. I ensure that monitoring committees are in place and that reports reach the Board of Management and the Ministry," while Principal 3 stressed the delegation element: "While I am overall in charge, the PC Coordinator leads day-to-day monitoring. I receive reports, chair review meetings, and intervene where decisions or approvals are required." This indicates a balance between direct accountability and delegated operational responsibility, with principals remaining the custodians of monitoring outcomes rather than daily implementers.

Document review supported this finding: In 6 institutions (100%), monitoring responsibilities were clearly captured in PC implementation manuals and institutional circulars, designating the principal as the chief monitoring officer. Meeting minutes in 5 institutions (83%) documented principals chairing PC monitoring review meetings where progress reports were discussed. Reporting templates consistently had a "Principal's approval signature" section, reinforcing their oversight role. During field visits, principals were observed in formal settings such as PC performance review meetings and stakeholder consultations rather than in day-to-day

site monitoring. For instance, in one institution, the principal chaired a mid-term monitoring review where issues of procurement delays and contractor performance were discussed, but the technical reporting was presented by the PC Coordinator and HODs. This confirmed the strategic rather than operational nature of their monitoring responsibility. Data converges to show that principals occupy the apex of monitoring responsibility. Their role is defined by governance frameworks as revealed by data from document analysis, validated by their leadership in review meetings as observed, and reinforced by their own narratives during verbatim interviews. However, they consistently acknowledged reliance on PC Coordinators for operational monitoring, while their own role remained strategic, supervisory, and accountability-driven. This triangulation demonstrates that monitoring responsibility was clearly institutionalized at the principal level, but in practice, execution was delegated to ensure efficiency.

PC Coordinators were described as the engine of monitoring operations, serving as the link between strategic oversight (principals) and technical inputs (HODs). All six PC coordinators (100%) confirmed that they were the designated officers responsible for day-to-day monitoring, documentation, and reporting." PC Coordinator 4 put it succinctly: "The principal delegates monitoring to me, but I must coordinate with departments and prepare consolidated reports. It is my job to make sure the institution keeps track of targets while PC Coordinator 6 added: "I ensure monitoring schedules are followed, compile reports, and escalate challenges that require the principal's decision. Without this role, the process would collapse." This positioned the PC coordinators as custodians of operational monitoring systems ensuring that processes were functional, records were complete, and challenges were escalated. Review of monitoring frameworks and institutional records confirmed this central role because in 6 institutions (100%), the PC Coordinator was formally designated in circulars and PC implementation guidelines as the officer-in-charge of monitoring activities. Monitoring checklists, site visit reports, and progress templates were consistently signed or compiled by the PC Coordinators. In 4 institutions (67%), reporting schedules explicitly mentioned PC Coordinators as secretaries to PC Monitoring Committees, responsible for documenting discussions.

During field visits, PC Coordinators were directly observed leading site inspections and taking notes during monitoring committee sessions. In two institutions, coordinators were seen briefing principals and HODs on project status using monitoring dashboards and summary reports. This affirmed their role as hands-on monitors and documentation leads, complementing the principals' oversight function. The triangulated data highlights the centrality of PC Coordinators in monitoring responsibility. While principals provided strategic oversight, coordinators were the operational drivers, ensuring systematic data collection, reporting, and escalation of issues. Their role was validated through acknowledgment of centrality during interviews, Data from document review such as formal designations and signed reports, and observation of sites and committee involvement. Thus, PC Coordinators acted as the backbone of institutional monitoring systems, bridging strategic leadership with ground-level inputs.

Unlike the principals' whose role was strategic oversight and PC Coordinators who were operational leads, HODs played a supporting technical role in monitoring. Out of the 16 HODs interviewed: Twelve (75%) reported being involved in departmental-level monitoring of infrastructure projects such as verifying progress on laboratory construction, equipment installation, and workshop upgrades while 4(25%) stated their role was limited, usually responding to queries when requested by PC Coordinators. HOD 9 explained: "We don't lead the monitoring, but we provide technical feedback. If equipment is installed, we verify it is functional and meets departmental needs," while HOD 4 noted: "Sometimes, we only see the reports after the coordinator has compiled them. Our role is more of confirming facts than steering the monitoring process. This showed that HODs were not primary monitors but acted as technical verifiers and departmental informants. Data from review of monitoring reports and committee minutes revealed that: in 10 departments (62%), HODs signed off on monitoring checklists to confirm progress, in 6 departments (38%), their inputs were referenced indirectly, often summarized in PC Coordinators' reports. There was no documentary data that positioned HODs as lead monitors, but rather as contributors of technical accuracy. Data from observation revealed that during institutional monitoring committee meetings, HODs were presenting departmental updates such as reporting progress of civil works or highlighting equipment installation delays. In two cases, HODs directly demonstrated the status of new infrastructure to monitoring teams. However, the final documentation were still handled by the coordinators. Interviews confirmed HODs saw themselves as technical verifiers rather than lead monitors,

documents corroborated this by showing their sign-offs, not authorship of reports while observations validated their role in providing practical, departmental updates during monitoring sessions. This triangulation establishes that HODs' responsibility in monitoring was supplementary and technical in nature, ensuring that departmental realities such as lab readiness, equipment use and teaching needs were factored into institutional monitoring systems, but always under the coordination of PC Coordinators.

Domain 3: Tools and Indicators Used

Principals, in their role as strategic overseers, were less concerned with the mechanics of monitoring tools and more focused on ensuring institutional adoption of standardized instruments. Out of the six principals interviewed: Five principals (83%) reported that they formally endorsed the use of monitoring templates and reporting formats provided by the Ministry of Education and TVET Authority while 4(67%) highlighted that they required monitoring teams to track Key Performance Indicators such as percentage completion, adherence to timelines, budget absorption, and quality assurance. Only 2 principals (33%) indicated they were directly involved in reviewing the tools themselves; most relied on PC Coordinators for operational application. Principal 1 emphasized: "Our role is to ensure the right tools are used consistently, whether it is Gantt charts, site visit checklists, or budget tracking sheets. Without such tools, monitoring would be guesswork," while Principal 4 explained their reliance on reports rather than raw data: "I don't sit with checklists at the site, but I insist on reports being based on standard templates so that I can compare across projects." This illustrated that principals set expectations and enforced tool adoption but left actual application to coordinators and technical teams.

A review of institutional files and Ministry directives revealed: Monitoring checklists and progress templates were present in 5 institutions (83%); Gantt charts and work schedules were found in 4 institutions (67%), often annexed to performance contract documents; Budget tracking tables were inconsistently applied, appearing in only 3 (50%) institutions, suggesting weak enforcement of financial monitoring indicators, and Principals were regularly copied in formal monitoring reports, confirming their role in oversight rather than direct usage. However, during site visits, principals were not observed handling monitoring tools directly but were present in debrief sessions where coordinators presented data extracted from the templates. In one case, a principal queried discrepancy between reported and observed progress, underscoring their oversight role. Interviews showed principals stressed standardization and comparability of monitoring tools with data from document review confirming the presence of templates and schedules, though with uneven consistency while observations validated that principals oversaw but did not apply tools directly. This triangulated evidence demonstrates that principals' effectiveness in monitoring and reporting hinged on strategic enforcement of standardized tools and KPIs, ensuring institutional accountability while delegating technical applications to coordinators and HODs.

As the operational monitors, PC Coordinators were the main custodians of monitoring tools and indicators. They confirmed that their work relied heavily on standardized frameworks issued by the Ministry of Education and TVET Authority, as well as institution-specific adaptations. All the 6 (100%) PC Coordinators reported direct use of monitoring tools such as checklists, Gantt charts, progress-tracking forms, and budget expenditure sheets. Five PC coordinators (83%) stated that they prepared monitoring schedules and ensured these were shared with both the Board of Management (BOM) and relevant departments. Four PC coordinators (67%) indicated that while templates existed, there was often inconsistency in how indicators were filled in by departments, leading to "data gaps." While 2 (33%) admitted that budget-tracking tools were sometimes applied retrospectively rather than in real-time, due to delays in financial reporting. PC coordinator 3 explained: "The Ministry provides us with the template, but we adapt it to our context. I personally ensure that each monitoring visit produces a completed checklist, updated Gantt chart, and progress report," while PC Coordinator 5 reflected on challenges of enforcement: "Some departments don't submit their progress updates on time, so even if we have the tool, the data is incomplete. That affects the reliability of indicators."

Data from document analysis confirmed the central role of PC Coordinators, for instance, in all 6 (100%) institutions, monitoring checklists bore the signatures of PC Coordinators, showing their responsibility for data capture while progress reports prepared by PC Coordinators consistently included Key performance indicators such as project completion status (%), variance from planned timelines, and expenditure ratios. However, in some institutions, incomplete departmental inputs were evident, with blank sections in the templates. Donor-

funded projects had more detailed tracking indicators procurement milestones, and delivery of equipment), reflecting external accountability requirements. Field visits confirmed that PC Coordinators were the ones carrying monitoring tools on-site, checking against planned milestones, and engaging contractors directly. In some institutions, coordinators observed cross-checking construction progress with Gantt charts and financial reports during site meetings. Data from interviews showed PC Coordinators actively applied monitoring tools but faced challenges with departmental compliance. Data from document analysis corroborated this, showing consistent reporting templates but incomplete entries in some cases whereas Observation reinforced their role as the actual enforcers of tool use, contrasting with principals who only reviewed reports. PC Coordinators emerged as the critical link between monitoring frameworks and actual project implementation, ensuring data capture and progress tracking while struggling with systemic gaps in financial reporting and departmental compliance.

Head of Departments, while not the primary custodians of monitoring tools, played an important technical input role in ensuring the data captured by PC Coordinators reflected actual progress in their respective departments. Twelve HODs (75%) reported that they regularly submitted progress data such as status of equipment installation, lab readiness and classroom utilization while 9 (56%) confirmed that they were oriented to monitoring templates by PC Coordinators and required to fill sections relevant to departmental progress. Four HODs (25%) admitted they rarely interacted with the formal templates, with their input being mainly verbal during meetings with 3 (19%) indicating that sometimes their updates were not captured in final reports due to either late submission or formatting issues. HOD B2 emphasized their role: "The PC coordinator gives us a section to fill, for example, lab equipment status. We simply provide the figures and comments. It is not our tool, but we supply the data," while HOD 9 was more critical: "Most of the time, monitoring tools are handled at the top. Our contribution is only when asked, and sometimes our details are edited out when reports are consolidated."

Data from document analysis such as monitoring templates reviewed across six institutions showed departmental sections for technical input, typically signed by HODs. In some institutions, departmental inputs were consistently completed and included. In other institutions, large gaps were evident, especially in sections requiring specific technical progress percentages such as % equipment installed Departmental reports separate from PC templates, were observed in files for 5 institutions, suggesting parallel reporting systems feeding into PC monitoring. During site visits, HODs were observed providing first-hand technical verification during monitoring visits led by PC Coordinators. In some institutions HODs physically guided monitoring teams to departmental facilities and confirmed progress against planned targets. However, HODs were not seen handling or completing monitoring templates directly; instead, they supplied verbal/recorded updates which PC Coordinators documented. Data from interviews showed that HODs recognized their supporting role in data provision but noted limited involvement in tool management. Data from document reviews such as Templates confirmed departmental input, though inconsistent across institutions while observation confirmed that HODs actively contributed during site visits but did not manage the formal tools themselves. HODs function as technical verifiers rather than tool custodians were confirmed the data. Their contributions ensure accuracy of data fed into PC monitoring, but inconsistencies in timeliness and completeness of submissions weaken the reliability of indicators at the institutional level.

Domain 4: Reporting Practices

Principals, as the strategic recipients and users of monitoring reports, placed strong emphasis on reporting as a key mechanism for accountability and decision-making. Six principals (100%) confirmed receiving periodic reports from PC Coordinators while 5 (83%) stated that reports were received on a quarterly basis, aligned with PC reporting cycles. One principal (17%) indicated reports were submitted bi-annually due to institutional delays in compiling updates, 4 (67%) affirmed that reports were presented to and discussed with the Board of Management (BOM) for oversight and 2/6(33%) acknowledged that while reports were prepared, BOM engagement was minimal, with reports "filed rather than acted upon." All principals agreed that reports informed decision-making, particularly in budget reallocations, re-prioritization of projects, and contractor follow-ups. Principal 2 emphasized accountability: "Every report that reaches my desk must tell me two things - what has been achieved and where the bottleneck is. Without that, the report is not useful," while Principal 4 highlighted

challenges of timeliness: "Sometimes the reports come late. By the time we get them, the contractor has already fallen behind schedule, and the delay is harder to fix."

Data from document analysis such as reports reviewed across institutions revealed structured templates containing project progress summaries, budget absorption, and pending issues. In 5 institutions, reports were submitted quarterly, with minutes showing BOM discussions while at institution 1, only two reports were available over the last contract year, supporting the principal's comment on reporting delays. Reports often included photographic evidence, contractor status updates, and budget utilization tables, confirming their operational depth. Principals were observed chairing meetings where reports were tabled for discussion. Principals actively questioned inconsistencies in reports, requesting verification from HODs while in one institution, reports were circulated but not discussed during BOM sessions, reinforcing concerns about underutilization.

Data from interviews revealed that Principals valued reports for decision-making but worry about timeliness and limited oversight in some cases. Data from document analysis revealed that reports existed and were mostly regular, though a minority show gaps. From observation, it was noted that there was active engagement in most institutions, though some reports risked being underutilized. Principals therefore perceived reporting as an indispensable accountability tool for PC implementation, but effectiveness is uneven, depending on the regularity of submission and the level of BOM engagement. PC Coordinators, as the central custodians of monitoring and reporting, played the most critical role in compiling, formatting, and disseminating reports on infrastructure project implementation. Their perspectives underscored the operational backbone of reporting systems within public technical training institutions. All six PC Coordinators (100%) confirmed that they were directly responsible for preparing and compiling periodic reports on infrastructure projects. These reports typically included progress updates, financial utilization, and challenges encountered. Five out of six (83%) indicated that they adhered strictly to a quarterly reporting cycle, while one (17%) admitted occasional delays, citing "incomplete departmental inputs" as the cause.

Importantly, 4 (67%) PC coordinators emphasized that they used standardized reporting templates developed at the national PC secretariat level. This ensured uniformity in data presentation and comparability across reporting periods. However, the remaining 2 (33%) mentioned that while they used the national template, they frequently supplemented it with locally generated annexes, such as photographs of completed works or contractor correspondence, to provide richer context. PC coordinator 1 described the process: "I compile departmental updates, verify them against financial records, and then prepare the institutional report. It is not just paperwork, I have to cross-check with procurement and sometimes even visit sites to validate progress," while PC Coordinator 5 highlighted workload challenges: "Sometimes it is overwhelming. Everyone expects the report on time, but departments submit late or incomplete data. We end up working late nights just to meet the deadline." A review of institutional files confirmed that quarterly PC reports were consistently prepared and submitted to the Ministry in some institutions. The reports contained standardized sections, including: Project description and targets, Progress achieved in percentages, Budget utilization and challenges faced, and mitigation strategies in one institution, however, only two reports were available for the previous contract year, corroborating the coordinator's admission of delays. Furthermore, in 4 institutions, reports included supporting photographs of works, while in 2 they contained annexed copies of Board of Management (BOM) minutes where reports were tabled, showing cross-institutional accountability.

During site visits, PC Coordinators were observed presenting reports in management meetings, where they summarized key achievements and challenges. In two institutions, the coordinators directly responded to principal queries about budget discrepancies, demonstrating their central role as information brokers between departments and leadership. In one case, the coordinator was observed struggling to defend incomplete data because HOD had failed to submit updates on time - further confirming the dependency on departmental cooperation. Data from interviews, documents, and observations converged on several points: Centrality of PC Coordinators were the linchpins of reporting systems, ensuring data flows from departments to institutional and national levels; Consistency but Fragility was noted, while quarterly reporting is the norm, its effectiveness depends heavily on timely inputs from departments. Delays create bottlenecks that compromise report timeliness; Value addition was done by the PC Coordinators who went beyond filling templates as they validated,

contextualized, and synthesized information, making reports meaningful tools for decision-making; Workload pressure for PC coordinators as the role was often burdensome, with coordinators handling both coordination and reporting tasks simultaneously, raising questions about staff capacity and support.

Heads of Departments served as the primary feeders of departmental-level data into the institutional reporting system. Their perspectives revealed both the value and challenges of departmental contributions to monitoring reports under Performance Contracts (PCs). Out of 16 HODs, 12 (75%) reported that they regularly submitted progress updates to PC Coordinators for inclusion in institutional reports. These updates typically covered project status such as percentage completion of labs, workshops, or classrooms, procurement updates for departmental equipment, and operational challenges. However, 4 (25%) admitted delays or inconsistencies in reporting, often due to competing teaching workloads or the absence of structured departmental monitoring tools. HOD 4 highlighted the importance of departmental inputs: "Without our updates, the coordinator cannot prepare a complete report. We are the ones who know if the lab equipment has been installed or whether the contractor has delivered materials," while HOD 12, however, expressed concerns about timeliness: "Sometimes the report deadlines catch us unprepared. We are given short notice, and because we are also teaching, the data we submit may not be as detailed as required."

A review of PC progress reports showed that in some institutions, reports included departmental annexes, such as workshop completion percentages or equipment delivery notes signed off by HODs. However, in one case, the reports lacked departmental breakdowns, confirming the existence of reporting gaps. BOM minutes in two institutions also indicated that HODs occasionally presented updates directly during meetings, though in most cases their role was indirect through PC coordinators. During institutional visits, HODs were observed consulting with PC Coordinators to verify project progress before finalizing report inputs. In one case, a HOD physically took the monitoring officer to a nearly completed workshop to demonstrate progress before the report was finalized.

In contrast, another institution's observation revealed last-minute rushed submissions, with HODs forwarding unsigned data sheets on the day of report compilation. The findings of the study revealed the following with regard to HODs' participation in PC reporting: Integral role in data accuracy was carried out by HODs as they provided the technical details necessary for reports to reflect ground realities, ensuring completeness of institutional reports; Weakness in timeliness was evident as a quarter (25%) of the HODs admitted delays, often caused by workload and lack of structured departmental monitoring systems. This weakened overall reporting efficiency; dependence on PC Coordinators was inevitable as HODs supplied data, they depended on PC coordinators for report compilation, creating risks where departmental delays cascaded into institutional reporting gaps; and, partial ownership among the HODs was revealed although HODs recognized the value of their contributions, their sense of ownership of the reporting process varied, with some seeing it as a "compliance duty" rather than an accountability mechanism.

Domain 5: Management of Challenges

All six principals (100%) acknowledged that infrastructure projects faced recurring challenges during implementation, particularly funding delays, procurement bottlenecks, and contractor inefficiencies. Their role was primarily to escalate and intervene strategically, either by engaging Boards of Management (BOM), communicating with funding agencies (GOK or donors), or authorizing reallocation of institutional resources. Principal 3 noted the difficulty of addressing recurrent procurement delays: "Our biggest problem is the procurement chain. Even when funds are released, the processes take long.

We sometimes intervene at the BOM level, but our hands are tied to PPRA rules," while Principal 1 highlighted high-level interventions to maintain project continuity: "When funds are delayed, we resort to bridging finance through IGAs or request BOM to authorize phased implementation. Otherwise, the project stalls." Data from document analysis revealed that BOM Minutes in four institutions contained explicit references to principals' interventions in handling procurement and contractor issues. For example, minutes from Institution B indicated a principal-directed BOM resolution to replace a non-performing contractor after repeated delays. Progress reports also showed annotations from principals, often highlighting "funding delays" or requesting escalation of

procurement matters to the Ministry of Education. In two cases, principals appended recommendations for phased implementation to mitigate funding shortfalls.

During site visits, principals were observed engaging directly with monitoring teams, often clarifying how identified risks were being addressed. In institution A, the principal personally guided the monitoring team through a delayed classroom project, explaining the steps taken to reallocate IGA funds to sustain progress while awaiting Government of Kenya disbursements. In the remaining institutions, however, observation revealed that principals relied heavily on PC Coordinators, with limited direct follow-up on departmental-level challenges highlighting varying degrees of strategic engagement across institutions. The study revealed the following: Universal recognition of challenges as all principals (100%) acknowledged systemic barriers, especially funding delays and procurement hurdles, aligning with documentary records; strategic escalation role was executed by principals often as they intervened by engaging Boards of Management, authorizing bridging strategies, or escalating issues to Ministry of Education, confirming their role as institutional problem solvers; variable proactivity was evident as some principals were hands-on that is, personally monitoring contractor performance and others delegated heavily to coordinators, leading to inconsistencies in resolution speed; and, Tension existed between policy and practice as Principals emphasized that PPRA procurement rules limited their flexibility, even when urgent interventions were required.

All six Performance Contract coordinators (100%) emphasized that documenting challenges and escalating them to management was central to their mandate. Unlike principals, whose role was high-level, PC coordinators were embedded in the day-to-day monitoring, producing reports that catalogued problems in detail and tracked their resolution status. PC Coordinator 4 explained their role in maintaining systematic documentation: “We prepare progress reports with a section specifically for ‘challenges and risks’. These are discussed with the BOM or principals before any decision is taken,” while PC Coordinator 2 stressed the importance of evidence-based reporting: “We don’t just write challenges; we attach contractor letters, procurement correspondence, and departmental memos to ensure accountability.” Data from document review revealed that: Quarterly PC reports across all six institutions contained structured sections on “challenges and risks”, authored by coordinators; In Institution 6, the coordinator attached photographic evidence of incomplete works when reporting contractor underperformance, enhancing accountability; At least four institutions’ reports included procurement committee minutes, verifying claims of delayed approvals.

During field visits, PC Coordinators were observed acting as liaison with monitoring teams and departments. In two institutions, PC coordinators walked external monitors through files containing challenge logs and copies of correspondence with suppliers/contractors. In contrast, in another case, observation revealed a less rigorous system, where challenges were reported verbally without consistent documentary backup, suggesting variability in the robustness of monitoring across institutions. The study therefore noted the following with regard to management challenges as indicated by PC coordinators: Systematic documentation was evident unlike principals, who mainly intervened, PC Coordinators consistently documented challenges in quarterly reports, often triangulated with letters, minutes, and photos; Operational escalation was revealed as PC Coordinators played the critical role of translating technical and departmental-level problems into actionable reports for decision-making at higher levels; Dependence on HOD inputs as PC Coordinators’ effectiveness was sometimes constrained by incomplete or delayed departmental reporting, which they acknowledged as a bottleneck; and, variation in rigor among PC coordinators was evident. While most coordinators employed systematic templates and attachments, observation confirmed that some institutions relied on less formal systems, reducing the traceability of problem-resolution chains.

Out of the 16 HODs interviewed, 14 (88%) reported being actively involved in addressing operational challenges that emerged during infrastructure project implementation. Their role was less about escalation (handled by PC Coordinators) and more about finding immediate, practical solutions to ensure continuity in teaching and learning. HOD 5 explained: “When equipment for the workshop delayed, we rearranged timetables so that theoretical lessons continued while waiting for deliveries,” while HOD 15 highlighted corrective technical action: “We often had to adjust specifications when what was delivered didn’t match departmental needs. Instead of stopping the entire process, we negotiated modifications at our level.” Data from document analysis such as departmental meeting minutes from five institutions revealed recurring agenda items on “project challenges”

and "mitigation strategies." In Institution B, an internal memo from the Mechanical Engineering department documented a request to borrow lab equipment from Electrical Engineering while waiting for delayed deliveries. In Institution E, HODs formally recorded adjustments to class schedules in departmental timetables due to infrastructure works, which were cross-referenced in PC progress reports. During site visits, classrooms and labs were observed repurposed to accommodate displaced activities, confirming reports of space constraints. In one institution, an HOD personally accompanied the research team to show unfinished plumbing installations, explaining how temporary solutions (portable water tanks) had been arranged until completion.

The study noted the following: Frontline problem-Solving was evident as HODs did not just report issues; they actively managed short-term solutions to minimize disruptions in academic operations while Collaboration with PC Coordinators was key as HODs often revised specifications or flagged contractor issues but relied on coordinators to escalate these challenges formally to principals; Trainee-Centric adjustments were employed as Corrective measures, for instance, timetable shifts and borrowing equipment were strongly oriented toward protecting the learning process as systemic gaps remained experienced despite efforts put in place, budgetary shortfalls and procurement delays limited their ability to provide lasting solutions. HOD 3 noted: "We can only do so much at the departmental level - without funds, some issues remain unresolved until the next financial year."

Domain 6: Improvements in Monitoring and Reporting

All 6 principals (100%) acknowledged that the current monitoring and reporting systems were functional but inefficient, requiring deliberate improvements. Their suggestions emphasized digitization, capacity building, and integration of feedback loops into institutional governance structures. Principal 3 stressed the need for real-time systems: "Paper-based reports delay action. If we had digital dashboards, we could track progress instantly and intervene before projects stall," while Principal 1 highlighted staff training: "We need to build the monitoring capacity of our coordinators and HODs. Some reports lack depth because staff were never trained on PC-based monitoring requirements." Data from document analysis revealed that in one Institution, the principal had issued a circular (2023) recommending that PC progress reports be migrated to a shared Google Workspace to ease cross-departmental access and reduce reporting delays while in one of the Institution, strategic plan documents explicitly flagged the "need for capacity building in monitoring and evaluation practices." At one Institution, BOM minutes referenced discussions on integrating monitoring reports into procurement decision-making, demonstrating movement toward feedback loops. Observation in three institutions confirmed bulky hardcopy reports stored in the principal's office, highlighting the inefficiencies of manual filing systems. Institutions piloting digital project trackers (observed in Institution 6) demonstrated shorter turnaround times for updates compared to purely paper-based systems.

The study therefore found out that: Digital transformation as priority was inevitable Principals consistently advocated for replacement of paper-based monitoring with real-time digital platforms to improve speed, transparency, and accountability; Capacity gaps identified training for PC Coordinators and HODs which was viewed as essential to ensure consistency and depth in monitoring reports; Governance integration was necessary as half of the principals emphasized stronger feedback mechanisms to ensure monitoring outcomes influence Board of Management decisions and procurement approvals; Conditional accountability was seen as important in linking funding disbursements to verified monitoring milestones, which was seen as a potential deterrent against lax reporting as data from both document analysis and observation confirmed that digitalization and capacity building are already recognized priorities within institutional planning documents. Principal 6 summarized: "Monitoring should not be an afterthought. If we digitize, train staff, and make reports part of decision-making, our infrastructure projects will move faster and smoother."

All 6 PC Coordinators (100%) agreed that improvements were necessary to make monitoring and reporting more effective, with emphasis on operational tools, standardized formats, and technological support. PC Coordinator 2 argued for standardization across institutions: "Every college has its own template. It's confusing. We need one national monitoring tool aligned to PC guidelines." while PC Coordinator 5 emphasized workload and efficiency: "We spend too much time compiling hardcopy reports. A shared digital platform would save us days of work." PC Coordinator 6 stressed the need for feedback integration: "Reports go up to the principal, but there

is no feedback to departments. Monitoring should close the loop." Data from document analysis revealed that in institution B, a draft memorandum to the Ministry of Education (2023) explicitly requested "the development of a standardized Monitoring and Evaluation tool for PC monitoring across technical institutions." Institution 5 documented in its PC monitoring log (2022) delays of up to three weeks in finalizing reports due to manual collation of departmental inputs while in one of the Institution, BOM minutes highlighted the coordinator's recommendation for "feedback mechanisms to link monitoring findings to departmental corrective actions."

Field observation revealed that PC Coordinators' offices were cluttered with files and handwritten monitoring sheets, underscoring inefficiencies in paper-based systems. In two institutions, partial trials of digital monitoring spreadsheets were underway, but lacked institutional-wide adoption. Research notes captured that coordinators frequently worked overtime near reporting deadlines, reinforcing the call for administrative support and digitization. With regard to improvements in monitoring and reporting, the study found out that: Standardization and harmonization were the strongest call (83%) as it was meant to advocate for a nationally standardized monitoring template to reduce inconsistencies across institutions while Digitization, as an efficiency driver was highlighted by PC Coordinators as manual compilation of reports was a significant burden; digitization would cut time, improve accuracy, and enhance transparency; Closing the Feedback Loop as monitoring was perceived as too one-directional (upward to principals and Ministry of Education). PC Coordinators wanted systematic channels for feedback to trickle back down to departments and staff; and, Capacity and support need to be addressed as half of the PC coordinators requested more training in modern Monitoring tools, while a third called for clerical support. This aligned with broader institutional capacity gaps identified by principals in Domain 6.

Triangulation of data from Document analysis, such as memoranda, monitoring logs, BOM minutes, and direct observations of for instance, files, manual sheets, and workload reinforce the coordinators' claims that lack of digitization and standardization hampers efficiency. PC Coordinator D noted: "Monitoring should not feel like punishment. If we have the right tools and support, we can focus on improving projects, not just chasing paperwork." Among the 16 HODs, 14 (88%) suggested practical improvements to monitoring and reporting, centering on technical alignment, inclusion, and accessibility of reporting systems. HOD A1 noted insufficient inclusion of departmental staff in monitoring feedback: "We only hear about monitoring results at the end. If departments got interim updates, we could correct issues earlier." 5 emphasized project-specific indicators rather than generic ones: "Reports focus on timelines and budgets, but not on whether equipment actually works. Technical criteria must be part of the monitoring." HOD 13 called for capacity building: "Some HODs struggle to interpret monitoring reports. Training us on PC indicators would help in applying findings."

Data from document analysis revealed that one of the institution departmental minutes (2023) recorded repeated concerns from the Information Communication Technology HOD about new computer lab equipment being reported as "completed" while still non-functional, highlighting gaps in technical indicators. Institution A's BOM records (2022) noted that "departments are only briefed after reports are finalized," supporting the call for earlier feedback sharing. Institution 5's staff development request (2023) included a section on "capacity building in PC monitoring and reporting," confirming the expressed need for training HODs. During field visits, researchers observed that most HODs relied on verbal updates from PC Coordinators rather than direct access to monitoring documents. In two institutions, monitoring reports shared with HODs lacked technical checklists such as equipment functionality and workshop readiness corroborating HODs' claims about insufficient technical indicators. Instances of delayed departmental updates were noted: in one case, a workshop refurbishment project had been reported "90% complete" but departments had not been informed of significant material shortages.

The study established that Feedback inclusion was the strongest gap with 75% of HODs calling for better feedback loops, the evidence shows a clear disconnect between monitoring outcomes and departmental awareness; Technical indicators were underrepresented as two-thirds (63%) stressed that monitoring needs to assess functionality and technical usability, not just finances and timelines; Capacity Building was a secondary Concern as about 38% requested training in interpreting reports, revealing a skills gap in applying Monitoring and Evaluation frameworks at the departmental level; Digitization and interim updates were necessary as calls for digital dashboards and interim reporting suggest HODs want more real-time monitoring visibility rather than retrospective reporting; and, the convergence of data from document analysis such as minutes and BOM records,

field observations such as lack of access, absence of technical checklists, and HOD testimonies strongly validated their proposals. As summarized by HOD, "Monitoring should not just check whether money is spent; it should check if the equipment works for teaching."

With regard to suggested improvement in monitoring and reporting principals emphasized systemic and strategic improvements such as digitized dashboards, integration with government reporting systems such as GOK IFMIS, PC tracking, and capacity building for monitoring and evaluation staff. Principal 2 noted: "We need a unified digital dashboard where reports can be accessed by all stakeholders and not just the PC office." PC Coordinators focused on operational refinements that is, standardization of monitoring templates, clearer reporting structures, more frequent progress reviews, and inclusion of risk-tracking elements in reports. PC coordinator 3 stated: "Templates vary across departments. We need standardized reporting formats with indicators tied to PCs;" HODs proposed practical/technical improvements: better departmental inclusion in feedback loops, use of technical indicators such as equipment functionality and usability, interim updates, and targeted training for interpreting PC reports. HOD 12 noted: "Reports must test whether equipment works for teaching, not just whether it was delivered." Institution 2 Principal's 2023 memo proposed adoption of a digital dashboard linked to BOM reports, aligning with Principals' and PC Coordinators' emphasis while in one institution, PC Coordinator's draft templates showed different formats across departments, validating concerns about lack of standardization. In addition, institution1 departmental minutes of Engineering department for 2022 flagged missing technical indicators such as "welding machines delivered but not functional," confirming HOD emphasis. Data from observation revealed that in some institutions, PC reports were observed to be heavily financial and timeline-based, with limited technical details, supporting HOD claims. Two Principals showed researchers manually collated monitoring reports and realized inefficiencies which reinforced the push for digitization. During field visits, some PC Coordinators expressed frustration at having to reconcile inconsistent departmental submissions, validating their demand for standardization.

The findings revealed that High Convergence as all groups supported digitization and standardization, though emphases differ, for instance, Principals suggested strategic dashboards, PCs operational templates and HODs technical details; Moderate Convergence where capacity building was recognized across groups but in different contexts (Principals suggested Monitoring and evaluation teams while HODs proposed interpretation skills; Divergence where HODs strongly demanded for inclusion and real-time feedback, which was less prioritized by Principals and PCs, showing a vertical communication gap; and, Strategic vs Technical divide as Principals leaned toward system integration and accountability, while HODs stressed practical functionality of infrastructure. PC Coordinators sit in the middle, demanding template consistency and frequent updates. Triangulation revealed that improvements in monitoring and reporting required a three-pronged reform approach as follows: Digitization and System Integration, which is Principals-led, to improve accountability; Template Standardization with Technical Indicators that is, PC Coordinators and HODs-led, for operational consistency and usability; and, Inclusive Feedback Loops with Capacity Building that is HODs-driven, to ensure departmental-level application of monitoring outcomes. One HOD summarized: "If we had both functional indicators and real-time updates, monitoring would actually help us correct problems before it's too late.*"*

With regard to consultation and updates during monitoring, the study established that there was Limited Consultation Only 4 (25%) technical staff reported being regularly consulted during monitoring visits or updates. There was also occasional or indirect involvement of the technical staff as 6(38%) indicated they were sometimes asked to provide technical feedback such as equipment condition and lab readiness, usually through HODs rather than directly. Lastly, there was minimal or no updates as the majority, 6 (38%), indicated that they were rarely updated after monitoring activities, with feedback often "remaining at management level." Technical staff 14 noted: "We are the ones using the labs daily, but nobody asks us how functional they are during monitoring," while Technical Staff 5 stated: "Feedback is usually written in reports that we don't get to see." Data from documents such as monitoring reports reviewed showed detailed project updates but limited reference to technical staff contributions, aligning with staff perceptions of exclusion. Departmental minutes (Institution A, 2022) showed that HODs occasionally relayed monitoring findings to their teams, but these updates were inconsistent.

During site visits, it was observed that monitoring teams were engaging with Principals, PC Coordinators, and HODs, but technical staff were often present only as observers, confirming their reported limited involvement. In one institution, technical staff were called in briefly to demonstrate equipment use, but no follow-up discussion occurred, reinforcing the theme of tokenistic rather than systematic consultation. With regard to consultation and updates, the study established that there was a Strong convergence across interviews, documents, and observations as technical staff play a minimal role in monitoring consultation and are rarely updated. It was also revealed that consultation was indirect, typically mediated through HODs, and feedback loops are weak. The gap limited practical insights from ground-level users, meaning potential technical challenges may remain undocumented or unresolved until they escalate.

With regard to usefulness of monitoring reports, technical staff indicated that they rarely received reports as 10 (62.5%) of technical staff reported they had never seen formal monitoring reports, only hearing second-hand summaries. A few of the technical staff, 4(25%), had occasional access via HODs as sometimes they received updates from their HODs which were usually verbal, not in writing. Direct access to reports was reported by 2 (12.5%) mostly when demonstrating compliance during audits. Among those who had access, the usefulness was mixed, that is, positive when accessed as reports clarified expected timelines and budgeted items, and Limited utility as Feedback often given late, after implementation stages. Technical staff 13 noted: “If we had access to reports, we could plan better. Now we just wait to be told what to do” while another Technical Staff 15 stated: “The few times I’ve seen feedback, it came too late - the issue had already been overtaken by events.”

Data from documents such as monitoring reports sampled from institutions were formally addressed to Principals and Boards of Management, with limited circulation beyond senior managers. Departmental files showed summary memos prepared by HODs but no systematic sharing of full reports with technical staff. During field visits, technical staff frequently asked researchers about findings from ongoing monitoring, reinforcing their information gap. In one institution, a monitoring report observed on noticeboards was administrative in nature, offering no technical guidance for implementers. The study found out that there was a systemic exclusion of technical staff from direct access to monitoring reports. When accessible, reports were sometimes useful for clarifying expectations, but timeliness and circulation were weak, limiting their practical application. This resulted in disconnects between documented monitoring insights and actual implementation practices, constraining effectiveness.

On the other hand, 12 (58.3%) implementers reported they were not involved in monitoring, neither were they consulted during monitoring visits, often learning about evaluations indirectly. Three (25%) of implementers reported Partial involvement through supervisors, that is, HODs, as they said they were sometimes asked to provide clarifications about ongoing works or resource usage, but not systematically. With regard to direct Consultation only 2 (16.7%) implementers reported being directly engaged by monitoring teams, mainly when project deliverables were highly technical. Implementer 10 noted: “We are the ones on the ground, but they don’t talk to us. They assume the reports tell everything.” while Implementer 5 stated: “Occasionally, I have been asked to demonstrate equipment, but mostly they just observe.” Data from review of monitoring reports showed signatures from principals, PC coordinators, and HODs only, with no acknowledgment from implementers. Institutional monitoring schedules mentioned site inspections, but there was no clear protocol requiring engagement with implementers. Site visits confirmed that implementers were physically present during monitoring, but interactions were limited to visual inspections and conversations with supervisors, not direct engagement with implementers.

The study revealed that implementers were largely excluded from structured monitoring interactions despite being closest to actual project execution. Their involvement, when it occurred, was ad hoc and usually mediated through HODs. This creates a missed opportunity for gathering rich, ground-level insights, and may reduce the practical utility of monitoring exercises for identifying real implementation issues. With regard to usefulness of monitoring reports, 8 (66.7%) indicated that reports were not shared as they had never seen monitoring reports, so they could not use them to improve work. Three (25%) implementers indicated indirect access via HODs as they sometimes received summarized instructions from HODs, not the full reports. Only 1(8.3%) implementer reported having direct access to reports, which was found to be helpful in aligning their tasks.

Implementer 11 noted: "Reports are like secrets. We just continue with instructions as given," while Implementer 2 stated: "If they gave us the reports, we would understand better why certain changes are required." Implementer 9 reported: "The few times we get feedback, it is through supervisors, and sometimes the details are missing." Data from documents such as monitoring reports in institutional files were addressed to principals and BOMs, with circulation lists including PC Coordinators and sometimes HODs. There was no documented evidence of reports being formally shared with implementers or technical staff. During site inspections, implementers were briefed verbally about required corrections, but no report copies were handed to them. Reports remained administrative documents, not operational tools. For implementers, monitoring reports were practically inaccessible, with improvements relayed through HODs rather than direct reporting. This limited their ability to understand rationale for decisions, weakening ownership and slowing corrective actions. The disconnection between reporting and implementation undermines the potential of monitoring systems to enhance execution effectiveness.

DISCUSSION

Effectiveness of Performance Contract monitoring and reporting in enhancing development of physical infrastructure in TTIs, triangulated insights revealed that the monitoring and reporting systems for PC implementation in technical institutions were strategically designed but weakly operationalized as follows: at the top that is, principals oversight existed and reports informed governance decisions; at the middle that is, PC coordinators and HODs, where monitoring and reporting were heavily administrative, with uneven inclusion while at the bottom that is, technical staff and implementers, the system broke down as monitoring feedback rarely reached them, limiting their ownership and ability to act on findings. Thus, while the framework was sound, effectiveness was undermined by weak communication, exclusion of key actors, and limited feedback integration.

The study established that monitoring and reporting of infrastructure projects under performance contracts were formally structured but inconsistently implemented across Technical Training Institutions. While monitoring frameworks anchored in quarterly cycles and standardized reporting formats were widely documented, their practical application varied significantly. This concur with Mwenda and Kimani (2022) and Rao, Sharma, and Verma (2021), who observed that Kenya's PC systems provide strong structural foundations but face gaps in enforcement due to resource constraints, leadership variability, and capacity limitations. Reliance on documentary reviews rather than physical site inspections in some cases resonates with Mwangi, Njoroge, and Wanjohi (2023), who noted that monitoring in public institutions often becomes compliance-driven rather than developmental.

Monitoring responsibilities revealed a hierarchical yet complementary system. Principals provided strategic oversight, confirming institutional monitoring intervals, reviewing reports for decision-making, and addressing high-level interventions, consistent with government guidelines identifying them as accounting officers (Government of Kenya, 2020). Performance Contracts Coordinators emerged as operational anchors, leading site inspections, managing tools, compiling reports, and escalating challenges, supporting Mwenda and Kimani's (2022) findings on the critical role of mid-level administrators. Heads of Departments contributed to technical validation but were largely excluded from decision-making, reflecting patterns highlighted by Rao et al. (2021). These findings confirm the stratified nature of monitoring but also highlight a contradiction with participatory governance theories, which advocate broader inclusion to strengthen ownership and accountability (Arnstein, 1969).

The study revealed that standardized instruments such as checklists, Gantt charts, and reporting templates formed the backbone of monitoring. Principals largely enforced compliance, while PC Coordinators operationalized tools, and HODs provided technical inputs. This stratification mirrors the tiered accountability model proposed by Mwangi et al. (2023), where senior leaders focus on compliance and comparability while administrators drive daily implementation. Challenges such as inconsistent departmental submissions and retrospective financial reporting weakened data completeness and accuracy. The limited involvement of HODs in tool management also created a "weak link" in participatory accountability chains, echoing concerns raised by Rao et al. (2021). Reporting was central to accountability but uneven in timeliness and uptake. Principals relied heavily on reports

for strategic decisions, while PC Coordinators acted as custodians and compilers, and HODs provided technical inputs with limited ownership. Delayed submissions and weak Board of Management (BOM) engagement sometimes reduced reporting to a compliance ritual, confirming Mwenda and Kimani's (2022) observation that reporting frameworks in African public institutions often lack utility for frontline implementers. The findings also emphasize the need for feedback loops, as monitoring reports were not always translated into actionable improvements at departmental levels.

Challenges in management under PC monitoring reflected a layered approach. Principals escalated systemic barriers such as funding delays and procurement bottlenecks, consistent with Mwangi et al. (2023). PC Coordinators documented and escalated challenges, while HODs employed frontline coping strategies, including repurposing facilities and adjusting schedules. This aligns with Lipsky's (1980) concept of "street-level bureaucracy," illustrating how operational staff improvise in response to systemic constraints. However, uneven proactivity among principals and variable rigor in coordinators' documentation mirrored concerns about institutional capacity disparities (Rao et al., 2021).

Stakeholders strongly advocated for digitization of monitoring systems to enhance transparency, efficiency, and real-time tracking, confirming Mwenda and Kimani (2022). Calls for standardized templates and capacity building to align with OECD (2021) and Mwangi et al. (2023), who emphasize the importance of staff competency and structured reporting framework. Notably, the study highlights the absence of effective feedback loops: HODs reported delayed communication of monitoring results, confirming Lipsky's (1980) observations on frontline exclusion while showing that technical indicators-such as equipment functionality are underemphasized in compliance-focused reports. Triangulated Insights revealed that monitoring and reporting systems under PCs are well-structured, strategically aligned, and compliance-oriented but are constrained by resource gaps, limited inclusivity, and weak feedback mechanisms. Principals provide strategic oversight, coordinators operationalize monitoring, and HODs validate technical aspects but have limited influence. The implication is that while PC monitoring and reporting mechanisms are foundational to accountability, they risk becoming administrative rituals unless reforms address inclusivity, resource predictability, digitization, and feedback integration.

In a nutshell, the new knowledge generated was that while monitoring and planning processes were formally undertaken and provided strategic direction, their effectiveness was undermined by weak feasibility analysis, poor alignment with available resources, and limited inclusivity in decision-making. Principals and PC Coordinators confirmed that roles and responsibilities were clearly outlined in PC documents, yet their translation into practice was inconsistent. HODs frequently reported confusion in expectations, especially in projects requiring cross-departmental collaboration.

Technical staff and implementers highlighted persistent communication gaps during planning, which often resulted in inefficiencies at the execution stage in TTIs where these challenges were well managed, the physical infrastructure were developed timely.

A recurring challenge was the misalignment between plans and resources. Principals acknowledged that projects were often planned without firm guarantee of funding, while PC Coordinators admitted that feasibility studies were rarely conducted. Instead, many plans reflected institutional aspirations rather than technical or financial realities. As a result, projects were frequently delayed or stalled, with implementers citing overambitious timelines and poor resource planning as primary constraints.

The planning process was also characterized by a top–down approach. Although departmental needs were sometimes considered, decision-making authority remained concentrated at higher levels, limiting ownership and responsiveness at the departmental and technical levels. This lack of inclusivity not only weakened accountability but also contributed to misaligned priorities. Technical staff noted that earlier involvement could have helped identify potential challenges and improve implementation timelines. Monitoring and reporting was noted to have resulted in timely provision of physical infrastructure in most Technical Training Institutes.

Systemic and bureaucratic bottlenecks further hindered effective planning. Principals reported delays arising from procurement processes and rigid approval procedures, while PC Coordinators and HODs emphasized that

lengthy administrative requirements undermined the timeliness of project execution, even where plans were well crafted. Effectiveness of PC planning in enhancing development of physical infrastructure in public Technical Training Institutes was found to be moderate to high. Effectiveness was found to be high in institutions that set strategic intensions and produced comprehensive documents which translated into complete infrastructure units while it was found to be low in institutions that lacked strategic intensions and proper documentation, which translated into stalled infrastructure units. The process was more compliance-driven, designed to satisfy accountability requirements, than context-sensitive, resulting in planning gaps that translated into stalled or partially completed infrastructure projects.

CONCLUSION

Performance contract monitoring and reporting on the whole, effectively enhanced development of physical infrastructure in the Technical Training Institutes, save in a few cases in which the importance of monitoring and reporting were not undertaken to the letter.

That is, in institutions where monitoring and reporting was consistent in application, involved all the stakeholders and had strong feedback mechanism and effectiveness was high which translated to complete infrastructure units. In institutions where monitoring and reporting was inconsistent in application with limited inclusivity of stakeholders and weak feedback mechanism, there was moderate effectiveness translating into delayed or partial completion of physical infrastructure units.

In institutions where Monitoring and Reporting was properly executed, development of physical infrastructure units was enhanced as involvement of the stakeholder's ensured consistency in tracking infrastructure progress, timely reporting and corrective action execution.

RECOMMENDATIONS

i) The Ministry of Education and The Public Service, Performance and Delivery Management should formulate policies that prioritize the adoption of digital platforms for real-time project tracking, data collection, and reporting, enhancing transparency and accessibility.

ii) The Ministry of Education and The Public Service Performance and Delivery Management should develop clear role definitions for principals, Performance Contract coordinators, Heads of Department, and technical staff should be embedded in policy to reduce overlaps and strengthen accountability.

iii) National guidelines should also mandate feedback loops whereby monitoring and reporting output should include actionable recommendations and follow-up mechanisms, while government capacity-building programs should equip institutional actors with the skills necessary for effective data management, interpretation, and utilization of monitoring results.

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