

## From Appropriation to Delivery: Structural and Institutional Constraints in Capital Budget Utilization for Educational Infrastructure in Zimbabwe

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### Abstract

Capital budgets are ordinarily expected to translate public intention into public infrastructure. In the education sector, however, the conversion of appropriated resources into completed schools has often been restrained by a deeper administrative problem: the budget has been legally authorized, yet its material promise has not been sufficiently embodied in classrooms, laboratories, sanitation facilities, and other learning spaces. This article examines the structural and institutional determinants of capital budget utilization in Zimbabwe's Ministry of Primary and Secondary Education. Two questions are addressed: first, which structural constraints impede the full and timely utilization of the capital budget; and second, how institutional variables and informal norms influence administrative decision-making in ways that sustain underutilization. A sequential explanatory mixed-methods design was used, with quantitative evidence drawn from 167 technical experts and decision-makers across the capital execution chain, followed by qualitative evidence from 55 participants and documentary analysis of budget, procurement, and audit records. The findings show that capital execution has been constrained by a 285-day mean procurement cycle, a centralized signature trail, planning-readiness gaps, and late cash releases. These structural constraints were compounded by institutional risk aversion, weak delivery incentives, and coordination silos. Although 78% financial utilization was recorded, only 13.44% physical infrastructure delivery was achieved, yielding a 64.56% conversion void. A Budget Execution Constraints Model is advanced to show how structural "hardware" and institutional "software" interact to produce a stable but undesirable equilibrium of low delivery. It is argued that the remedy lies not only in increased fiscal allocation, but in the redesign of procurement architecture, delegation, performance accountability, budget flexibility, and institutional culture. Public finance is therefore interpreted not merely as fiscal accounting, but as the moral and administrative conversion of national promise into educational space.

## 1. Introduction

Public budgeting has commonly been regarded as a technical procedure through which revenues are allocated, expenditures are authorized, and institutional mandates are financed. Yet, in a developmental state, a budget is more than a ledger. It is a public covenant through which collective resources are assigned to collective futures. When a school infrastructure budget is approved, what is being authorized is not only expenditure; what is being promised is shelter for learning, a physical basis for curriculum implementation, and a visible sign that the right to education has been taken seriously. The moral meaning of budget execution is therefore located in conversion: the movement from appropriation to usable public value.

Within Zimbabwe's Ministry of Primary and Secondary Education, this conversion has been marked by a persistent disjuncture between fiscal intention and physical realization. Education infrastructure has been prioritized within national development planning, results-based budgeting, and the modernization of public financial management. However, the existence of a capital budget has not automatically resulted in the construction of sufficient schools and related infrastructure. The problem has therefore been framed less as one of nominal allocation alone and more as one of absorptive and delivery capacity. Public money has been made visible in budget documents, but its material equivalent has not been correspondingly visible in the educational landscape.

This article is focused on two closely related dimensions of that problem. The first concerns structural constraints within the capital budget execution chain: procurement protocols, centralized approval systems, project-readiness deficits, and the timing of cash releases. These constraints represent the formal "hardware" of the system. The second concerns institutional and behavioural variables: audit fear, procedural defensiveness, weak performance incentives, and siloed coordination. These represent the informal "software" through which formal rules are interpreted and enacted. The distinction is analytically useful because a system may be structurally demanding without necessarily being delivery-hostile; it becomes delivery-hostile when rigid structures are processed through a culture that rewards caution more than completion.

The article therefore advances a philosophical and practical claim. Capital budget underutilization should not be interpreted merely as a failure to spend. It should be interpreted as a failure to convert fiscal authority into educational capability. In this sense, the missing classroom is not simply an infrastructure gap; it is the institutional trace of a public finance system whose formal legitimacy has exceeded its functional capacity. When appropriations remain unspent or when expenditure records are not matched by physical delivery, the budget becomes performative rather than transformative. It is seen, reported, and audited, yet it remains incompletely embodied.

The argument is developed through the Budget Execution Constraints Model (BECM), a diagnostic framework in which fiscal inputs, structural constraints, institutional-cultural constraints, utilization variance, infrastructure outputs, and feedback loops are treated as interacting components of one execution system. The model is not advanced as an abstract diagram, but as a way of explaining why repeated reform language may coexist with persistent delivery failure. It is also used to derive a framework recommendation: a transition from a control-oriented public financial management culture to a delivery-oriented infrastructure execution regime.

## 2 Literature Review

### 2.1 Philosophical and Theoretical Framing

The intellectual premise of this article is that public finance must be judged by its capacity to produce public goods, not merely by its capacity to satisfy procedural form. Results-based budgeting and programme-based budgeting were designed to move administrative attention from inputs to outputs. Yet the adoption of results-oriented language is insufficient where the internal logic of bureaucracy remains shaped by compliance rituals, centralized permission structures, and fear of audit sanctions. In such circumstances, the budget may acquire the appearance of reform while retaining the behaviour of administrative inertia.

Institutional theory provides a useful explanation of this contradiction. Organizations frequently adopt modern administrative forms in order to secure legitimacy, even when their internal routines remain weakly aligned to the purposes those forms were meant to serve. This pattern has been described as isomorphic mimicry: the presence of the form without the reliable performance of the function. In the education infrastructure context, such mimicry is visible when performance-based budgeting exists on paper while capital projects remain delayed, underbuilt, or abandoned. The formal system speaks the language of outputs, but the operational system continues to protect itself through process.

General systems thinking is also relevant. A capital budget execution system cannot be understood by isolating one actor or one event. It consists of linked components: planning, costing, procurement, approval, cash release, contract management, certification, payment, monitoring, audit, and future allocation. A delay at one node changes the behaviour of the next node. Late cash release compresses procurement. Compressed procurement increases audit risk. Audit risk encourages defensive compliance. Defensive compliance produces slower decisions. Slow decisions generate underutilization. Underutilization weakens Treasury confidence and justifies future rationing. A self-reinforcing equilibrium is thereby produced.

Principal-agent theory further explains why formal mandates do not necessarily produce delivery behaviour. Citizens and policy authorities may desire completed schools, but officials operating within the execution chain may be rewarded for avoiding procedural exposure rather than for accelerating project completion. Where the consequence of a procedural mistake is more immediate than the consequence of non-delivery, rational actors may choose inaction. Underutilization then becomes less a sign of incompetence than a survival strategy produced by misaligned incentives. The resulting administrative culture is not irrational; it is rational within an institutional environment where caution is safer than delivery.

## 3 Methodological Orientation

A sequential explanatory mixed-methods design was used to investigate structural and institutional constraints in the capital budget execution chain. Quantitative data were collected from 167 technical experts and decision-makers drawn from the capital execution environment, including officials involved in planning, finance, procurement, infrastructure coordination, and decentralized implementation. The quantitative strand was designed to establish patterns of association, severity, and perceived constraint intensity.

Qualitative inquiry was then conducted with 55 participants in order to explain the mechanisms behind the numerical trends. Interviews and focus group discussions were used to trace how procurement delays, approval hierarchies, fund-release practices, audit anxiety, and interdepartmental coordination were experienced by actors inside the system. Documentary evidence from budget, procurement, performance, and audit records was incorporated to avoid overreliance on perceptions. This triangulation allowed the analysis to move from reported constraint to observed mechanism.

For purposes of model validation, structural constraints were treated as formal impediments within the execution chain, while institutional-cultural constraints were treated as behavioural and normative conditions that shaped the interpretation of those formal rules. Capital budget utilization was treated as the proximate fiscal outcome, while infrastructure delivery was treated as the ultimate service-delivery outcome. The analytical relationship was expressed through the following interaction logic:  $BU = \beta_0 + \beta_1 SC + \beta_2 IC + \beta_3 (SC \times IC) + \epsilon$ , where BU denotes capital budget utilization, SC structural constraints, IC institutional-cultural constraints, and  $SC \times IC$  the interaction effect through which institutional culture magnifies or dampens structural rigidity.

The relevance of this design lies in its ability to preserve both measurement and meaning. Procurement lead times, financial utilization rates, delivery percentages, and model-fit indicators provided the statistical skeleton. Interview testimony and documentary evidence supplied the institutional flesh. The resulting explanation was therefore not limited to identifying what went wrong; it sought to clarify why the same pattern could recur across fiscal cycles despite formal reform commitments.

Table 1. Analytical Alignment of Objectives One and Two

Analytical focus	Core question	Principal evidence	Interpretive logic
Objective One: structural constraints	Which formal execution-chain constraints impede full and timely capital budget utilization?	Procurement lead times; approval layers; project-readiness evidence; cash-release timing; utilization records	Budget execution is constrained by the formal hardware of the system.
Objective Two: institutional-cultural constraints	How do institutional variables and informal norms influence administrative decision-making?	Risk-aversion survey results; audit fear; incentive evidence; coordination patterns; qualitative mechanism mapping	Budget execution is moderated by the behavioural software of the system.
Integrated diagnosis	How do structural and cultural constraints jointly sustain underutilization?	Interaction effect $\beta = 0.42$ , $p < 0.001$ ; CFI = 0.96; RMSEA = 0.05	Underutilization is produced by a compounded system rather than a single defect.

## 4 Findings and Discussions

### 4.1 Findings I: Structural Constraints as the Hardware of Underutilization

The first objective required an appraisal of structural constraints within the capital budget execution chain. The findings indicate that capital budget underutilization was not merely caused by low fiscal commitment. Instead, it was generated by a chain of formal impediments that consumed the operational year before construction could meaningfully occur. The most consequential structural finding was the 285-day mean procurement cycle. Measured against a 365-day fiscal year, this cycle used approximately 78% of the available period before the physical build phase could properly begin. In practical terms, the capital budget entered the year with a legal mandate but not with sufficient execution time.

Procurement delay functioned as a temporal veto. A veto is normally imagined as a formal refusal. In this case, refusal was imposed by time. The project did not need to be rejected in order to fail; it only needed to be delayed until the remaining fiscal window became too narrow for completion. The strength of this constraint was statistically supported by a negative association between procurement duration and utilization rates, with  $r = -0.68$  ( $p < 0.01$ ). The implication is direct: every additional delay in tendering, evaluation, award, and mobilization reduced the probability that capital resources would be converted into certified expenditure and completed infrastructure.

Centralized decision-making formed the second major structural constraint. Capital execution was routed through a multi-layered signature trail in which expenditure approvals passed through at least five high-level sign-off points. This architecture was formally justified as a safeguard for public accountability, yet it operated as a high-friction control structure. Approximately 76% of respondents identified the lack of delegated authority as a primary source of delay. The central problem was not that control existed, but that control was concentrated in ways that undermined throughput. A file could be legally compliant and developmentally urgent, yet remain immobile because authority had not been distributed to the operational level at which implementation had to occur.

Planning and project management readiness gaps constituted the third constraint. Projects were often placed in the budget before architectural designs, Bills of Quantities, costings, or implementation schedules were sufficiently prepared. This produced a sequencing error: funds were sought before projects were technically mature. Budget inclusion then became a symbolic claim rather than an execution-ready commitment. The absence of a dedicated project implementation unit deepened this problem because the infrastructure portfolio lacked a daily driver responsible for moving projects across the chain of readiness, procurement, contracting, supervision, and payment.

The fourth structural constraint was the timing of cash releases. The evidence indicated that nearly 70% of infrastructure cash in 2022 was released in the final 90 days of the year. Such back-loading produced a release-procurement trap. The Ministry was hesitant to award contracts without predictable cash, while Treasury was hesitant to release cash where contracts were not yet sufficiently advanced. This reciprocal caution compressed implementation into the final quarter and increased the likelihood of fund surrender at year-end. Budget annuality therefore converted late release into project discontinuity. Where construction contracts crossed the December boundary, site abandonment, contractor demobilization, and repeated restarts became predictable outcomes.

Table 2. Structural Constraint Profile under Objective One

Structural constraint	Empirical signal	Execution mechanism	Effect on utilization	Recommended response
Procurement delay	285-day mean cycle; $r = -0.68$ , $p < 0.01$	Tendering, evaluation, award, and mobilization consume most of the fiscal year	Physical construction is pushed beyond feasible annual execution time	Agile Infrastructure Procurement Unit and e-GP workflow
Centralized approvals	At least five high-level sign-offs; 76% identified delegation deficit	Files move through multiple veto nodes before authorization	Decision time accumulates and contracts miss execution windows	Delegated authority thresholds and no-objection routing
Planning-readiness gaps	Projects budgeted before designs and BoQs are ready	Funding is pursued before technical maturity has been established	Allocated funds cannot be translated quickly into tenderable projects	Readiness gates before budget admission
Late cash release	Nearly 70% of 2022 infrastructure cash released in final 90 days	Treasury release and procurement readiness are misaligned	Funds lapse before work can be certified	Capital carry-over and medium-term expenditure scheduling

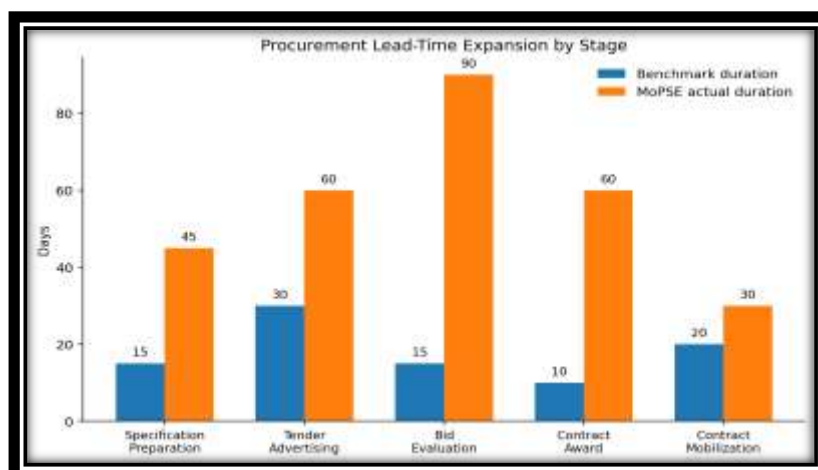


Figure 1. Procurement Lead-Time Expansion by Stage

**4.2 Findings II: Institutional Culture as the Software of Underutilization**

The second objective required an investigation of institutional and behavioural variables influencing decision-making toward procedural risk aversion and formal compliance. The findings show that structural constraints alone did not fully explain the persistence of underutilization. If procurement procedures constituted the visible machinery of delay, institutional culture constituted the invisible logic that made delay safe, normal, and repeatable.

The strongest cultural finding was the prevalence of audit fear. Eighty-three percent of respondents agreed that it was safer to allow funds to lapse than to risk accusations of financial misuse. Seventy-nine percent reported avoidance of individual initiative because of fear of audits or administrative sanctions. These findings suggest that a compliance-first rationality had been internalized. Officials were not merely passive participants in a slow system; they were operating within a consequence structure in which action carried higher perceived personal risk than inaction. The system therefore produced what may be described as a rationality of stagnation.

A further institutional problem was the weakness of delivery-based incentives. Sixty-five percent of respondents disagreed that staff were praised or rewarded for completing infrastructure projects within deadline and budget. Seventy percent agreed that the prevailing institutional attitude treated budget underutilization as “not a big problem.” This finding is philosophically important because it reveals the displacement of substantive accountability by procedural accountability. If the system punishes irregular action more than non-delivery, and if it fails to reward successful completion, then the official imagination is gradually disciplined away from delivery. Completion becomes admirable but optional; procedural safety becomes mandatory.

Coordination silos formed the third cultural constraint. Only two formal cross-departmental capital project meetings were reported per year, despite the complexity of the execution chain. Planning, procurement, finance, infrastructure supervision, and Treasury interface functions were not sufficiently synchronized. In a capital project environment, a silo is not merely a communication problem; it is a sequencing problem. A design that is not ready delays procurement. A procurement process that is not synchronized with cash release delays contracting. A contract that is not supported by timely certification delays payment. A payment delay demobilizes contractors. Thus, weak coordination is transformed into physical non-delivery.

The interaction between structural and cultural constraints was especially significant. The moderated multiple regression analysis yielded an interaction effect of  $\beta = 0.42$  ( $p < 0.001$ ), confirming that institutional culture did not merely coexist with structural rigidity; it intensified it. When procurement rules were complex, the fear of making a mistake amplified procedural delay. When approval chains were centralized, audit anxiety made actors less willing to escalate decisions. When funds were released late, the absence of a carry-over mechanism and fear of audit irregularities discouraged accelerated spending. Structural constraints therefore became more damaging when interpreted through a culture of defensive compliance.

The most revealing implication is that reform cannot be limited to laws, forms, and systems. A new procurement platform may be introduced, but if the administrative culture remains dominated by fear, files may still be delayed. Delegated authority may be written into policy, but if officials remain professionally unsafe when exercising discretion, authority will remain unused. Public financial management reform must therefore include the moral redesign of incentives. Officials must be made accountable not only for avoiding procedural fault, but also for failing to produce public value.

Table 3. Institutional-Cultural Constraint Profile under Objective Two

Institutional-cultural constraint	Empirical signal	Behavioural mechanism	Effect on execution	Required institutional shift
Audit fear and risk aversion	83% safer-not-to-spend; 79% avoidance of initiative	Officials minimize personal exposure by slowing or avoiding discretionary action	Underutilization becomes professionally safer than accelerated delivery	Protect good-faith delivery decisions through clear safe-harbour rules
Preference for non-spending	85% preference/non-spending signal compared with 13.44% delivery	Non-execution is treated as a lower-risk administrative outcome	Capital warrants remain unconverted into infrastructure	Rebalance audit culture toward value-for-money and physical completion
Weak performance incentives	65% reported absence of reward for deadline-and-budget completion	Delivery effort is not sufficiently recognized in performance systems	Administrative energy shifts away from capital completion	Link senior performance contracts to physical outputs
Normalization of underspending	70% indicated underutilization is not treated as a major problem	Budget surrender becomes routine rather than exceptional	A low-delivery equilibrium is reproduced	Institute mandatory delivery-variance reviews
Silo coordination	Only two formal cross-departmental capital meetings per year	Planning, procurement, cash release, and supervision are desynchronized	Files and projects stall between administrative nodes	Create integrated capital execution war-room routines

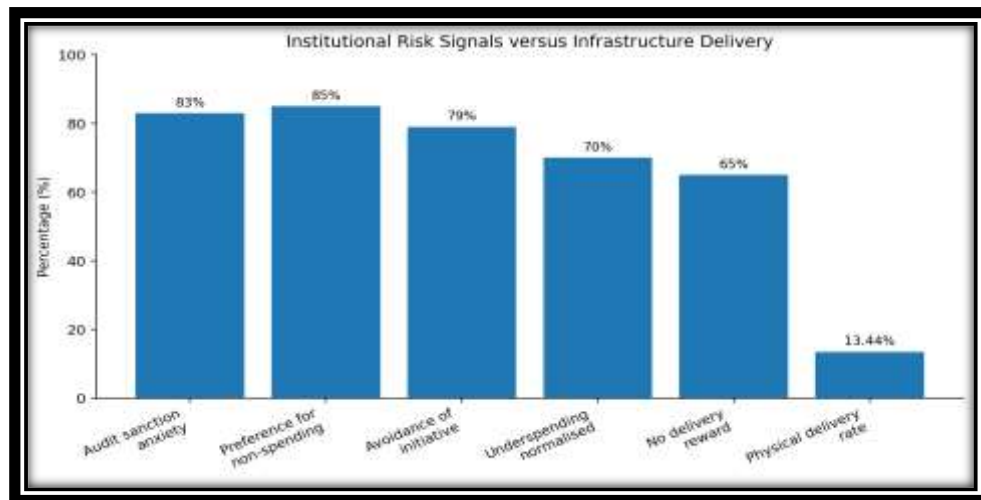


Figure 2. Institutional Risk Signals versus Infrastructure Delivery

### 4.3 Integrated Interpretation: The Budget Execution Constraints Model

The Budget Execution Constraints Model explains underutilization as a conversion failure produced by interaction rather than isolation. Fiscal inputs are first filtered through structural constraints: procurement delay, centralized approval, technical unreadiness, and late cash release. These constraints reduce the effective execution window. The same inputs are simultaneously filtered through institutional-cultural constraints: fear, caution, weak incentives, and fragmentation. These constraints shape how officials respond to the structural environment.

The model therefore rejects a single-cause explanation. It would be insufficient to say that budget utilization failed because procurement was slow. Procurement was indeed slow, but its consequences were magnified because officials operated in a culture where mistakes were more punishable than missed outputs. It would also be insufficient to say that underutilization was caused by fear. Fear mattered, but it became especially damaging when applied to a system already crowded with signatures, approvals, late releases, and annularity rules. The core explanation is the interaction between hard rules and soft norms.

The model further explains why the system remained stable despite poor outcomes. A bad equilibrium was produced. Treasury observed low absorption and responded cautiously. Officials observed audit risk and responded defensively. Procurement units observed incomplete readiness and proceeded slowly. Project implementers observed late release and avoided commitment. Each actor's behaviour was locally rational, but the system outcome was collectively irrational. The budget was protected procedurally while its developmental purpose was weakened.

This explains the 64.56% conversion void between financial utilization and physical delivery. A utilization rate of 78% may appear administratively acceptable if interpreted only as expenditure. However, when compared with a 13.44% physical delivery rate, the deeper failure becomes visible. The issue is not only whether money was spent or unspent, but whether expenditure and appropriation were converted into assets that learners could use. The gap between financial activity and infrastructure delivery reveals that capital budgeting was not sufficiently judged by its final public value.

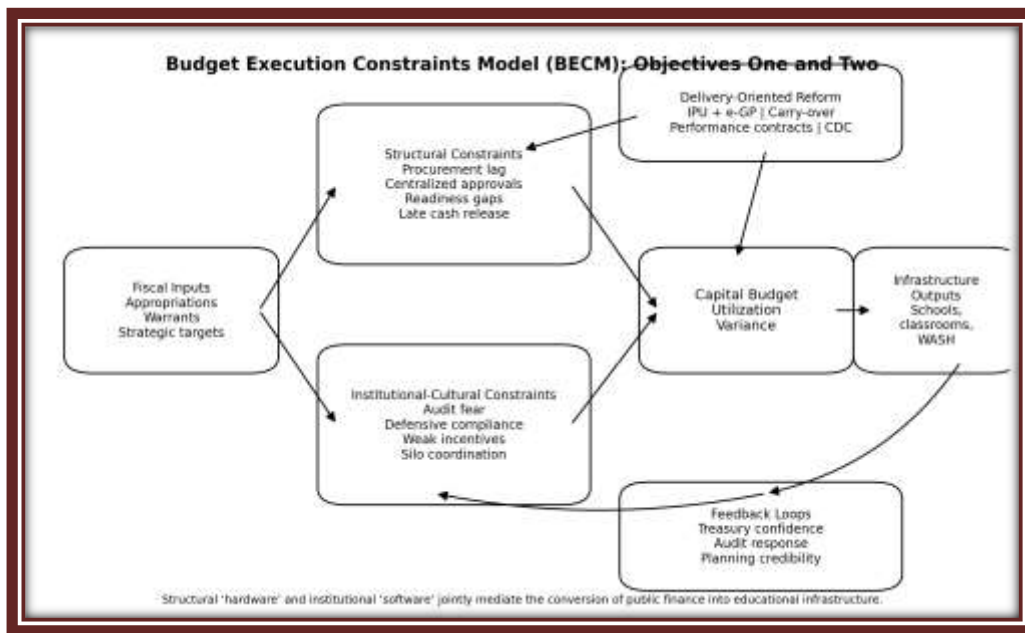


Figure 3. Budget Execution Constraints Model

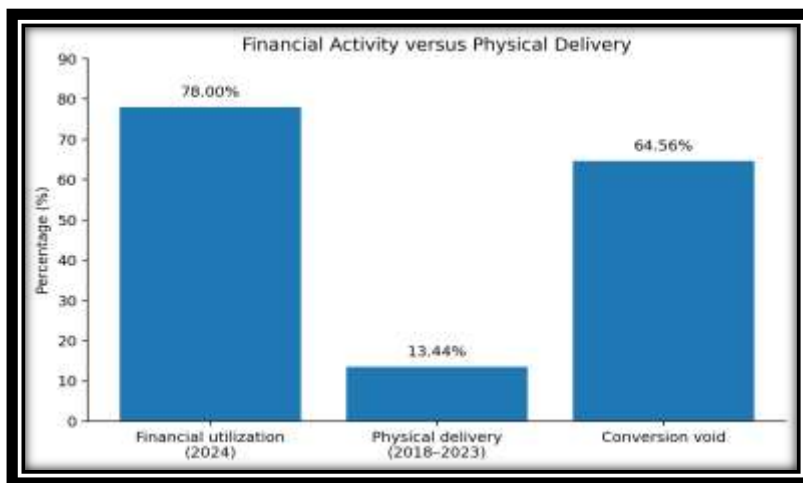


Figure 4. Financial Activity, Physical Delivery, and the Conversion Void

Table 4. Diagnostic Statistics and Model Validation Indicators

Indicator	Value	Interpretation	Implication for BECM
Financial utilization	78%	High relative to physical completion	Fiscal activity cannot be equated with infrastructure delivery
Physical delivery rate	13.44%	Low material conversion	The system exhibits a conversion void
Conversion void	64.56 percentage points	Gap between expenditure signal and delivery signal	Budgeting has remained weakly embodied in assets
Procurement lead time	285 days	Consumes about 78% of fiscal year	Structural time loss operates as a temporal veto
Procurement-utilization association	$r = -0.68, p < 0.01$	Strong negative association	Longer procurement duration reduces utilization capacity
Interaction effect	$\beta = 0.42, p < 0.001$	Institutional culture amplifies structural constraints	Risk aversion functions as a behavioral multiplier
Model fit	CFI = 0.96; RMSEA = 0.05; SRMR = 0.04	Good to excellent fit	BECM is diagnostically coherent

#### 4.4 Discussion: From Control-Oriented Compliance to Delivery-Oriented Public Finance

The findings carry implications beyond one ministry or one budget cycle. They invite a reconsideration of what is meant by accountability in public financial management. Accountability is often equated with traceability, signatures, documentation, and compliance with approval procedures. These are necessary safeguards. However, when safeguards are designed in such a way that they routinely prevent delivery, accountability becomes self-defeating. A school that was not built because every file waited for perfect procedural safety represents a failure of accountability, even where no individual irregularity was detected.

The results show that control and delivery had become imbalanced. Control was heavily institutionalized through procurement procedures, approval layers, audit scrutiny, and annuality rules. Delivery, by contrast, was weakly institutionalized through performance incentives, delegated authority, project readiness gates, and completion-based accountability. The system was therefore better designed to stop wrongdoing than to ensure completion. In a development context marked by infrastructure deficits, such imbalance carries ethical consequences. The absence of corruption is not the same as the presence of classrooms.

A philosophical distinction is therefore required between negative accountability and positive accountability. Negative accountability asks whether rules were broken. Positive accountability asks whether public purpose was achieved. The findings suggest that negative accountability had become dominant. Officials were made acutely aware of the dangers of spending wrongly, but were not equivalently exposed to consequences for failing to spend productively. Positive accountability would require the system to ask why projects did not move, why funds were released late, why BoQs were not ready, why cross-functional meetings were infrequent, and why delivery-based incentives were absent.

The structural findings also demonstrate that time must be treated as a public financial resource. A capital budget without execution time is not a full resource. The 285-day procurement cycle shows that administrative delay can destroy value without formally stealing funds. Inflation, contractor demobilization, rainy-season disruption, and year-end lapsing all convert time loss into fiscal and developmental loss. Public finance systems must therefore measure not only how much was allocated or spent, but how much usable implementation time remained after administrative procedures were completed.

The institutional findings suggest that delivery reform must be psychologically credible. Officials must believe that good-faith action taken within transparent rules will be protected. Without such assurance, e-GP systems, revised procurement plans, and performance contracts may be ceremonially adopted while behaviour remains unchanged. Reform must therefore be directed at the decision environment. It must reduce ambiguity, distribute authority, protect reasonable discretion, and reward completion. In this sense, the transition required is not merely procedural; it is cultural.

## 5 Conclusion and Recommendations

### 5.1 Conclusion

Capital budget utilization in educational infrastructure cannot be understood as a narrow accounting problem. It is a systemic and institutional problem in which the moral promise of public finance is either embodied or deferred. The evidence reviewed in this article shows that structural constraints—particularly procurement delay, centralized approvals, project-readiness gaps, and late cash release—have materially restricted the utilization of capital resources. It also shows that institutional culture—particularly audit fear, defensive compliance, weak incentives, and coordination silos—has magnified these structural constraints.

The resulting execution environment has produced a conversion void between financial activity and physical delivery. In such an environment, the budget may appear active while infrastructure remains absent. The 285-day procurement cycle, the 83% safer-not-to-spend mindset, and the 13.44% physical delivery rate together point to a system in which control has displaced conversion. The task ahead is therefore not merely to allocate more money, but to redesign the execution system through which money becomes schools.

A delivery-oriented infrastructure execution model has been recommended. Its components—an agile procurement unit, e-GP, readiness gates, delegated authority, capital carry-over, delivery-based contracts, monthly coordination routines, and community-driven construction pilots—are intended to reconfigure both the hardware and software of budget execution. Ultimately, the credibility of public finance should be measured not by the elegance of its budget documents, but by the extent to which those documents are transformed into the physical conditions of human development.

### 5.2 Framework Recommendation: A Delivery-Oriented Infrastructure Execution Model

A framework recommendation is proposed in response to the combined findings from Objectives One and Two. The recommendation is that the Budget Execution Constraints Model should be operationalized as a Delivery-Oriented Infrastructure Execution Model. Its purpose would be to shift the Ministry from a control-dominant equilibrium to a conversion-dominant equilibrium in which fiscal inputs are more reliably translated into physical infrastructure.

First, an agile Infrastructure Procurement Unit should be established and enabled through electronic government procurement. This unit should be separated from general administrative traffic and staffed with procurement, engineering, project management, and quantity-surveying competencies. Its mandate should be focused specifically on school infrastructure delivery. Delegated authority should be granted for infrastructure projects below an agreed threshold, thereby reducing the signature trail and shortening the route between readiness and contract award. Digital audit trails would preserve

accountability while reducing the friction of manual file movement.

Second, readiness gates should be introduced before capital projects are admitted into the budget. A project should not be treated as execution-ready unless site status, architectural designs, Bills of Quantities, cost estimates, procurement plans, and implementation schedules have been completed. This would address the sequencing error through which projects are budgeted before technical maturity. A readiness gate would not reduce ambition; it would protect ambition from symbolic budgeting.

Third, capital budget flexibility should be institutionalized through a carry-over mechanism for certified ongoing construction commitments. A 20% capital carry-over allowance would reduce the destructive effect of the annuality trap. Funds committed to verified works would not lapse automatically at year-end, and contractors would be less likely to demobilize during the January–March period. Such flexibility would align the fiscal calendar more closely with the physical reality of school construction.

Fourth, performance contracts should be restructured around delivery. Senior management, provincial leadership, and relevant technical offices should be assessed not only on procedural compliance, but on infrastructure completion, variance reduction, procurement cycle compression, and timely certification. A portion of performance evaluation should therefore be linked to physical classroom or facility completion. This would rebalance the incentive structure by making non-delivery visible and administratively consequential.

Fifth, cross-functional coordination should be made routine. A capital execution war-room should be convened monthly during active implementation periods, bringing together planning, finance, procurement, infrastructure, Treasury liaison, provincial implementation, and monitoring functions. The purpose would be to identify stalled files, unblock sequencing problems, and reconcile cash release with procurement readiness. This would transform coordination from an occasional meeting into a management discipline.

Sixth, community-driven construction should be piloted for non-complex primary school infrastructure projects. Where appropriate, School Development Committees and local construction ecosystems could be used under transparent social audit conditions. This would reduce dependence on centralized bottlenecks, lower unit costs, and create locally visible accountability. Such decentralization should not be treated as abandonment of standards; it should be treated as controlled subsidiarity, whereby decisions are made at the lowest competent level.

Table 5. Framework Recommendation Matrix for Objectives One and Two

Constraint addressed	BECM diagnosis	Framework intervention	Expected institutional effect	Delivery indicator
285-day procurement lag	Temporal veto in structural hardware	Agile IPU and e-GP workflow	Procurement lead time is compressed and digitally traceable	Cycle reduced toward 90-day benchmark
Centralized signature trail	Veto nodes accumulate decision delay	Delegated authority and no-objection thresholds	Authority is shifted closer to implementation	Approval layers and file waiting time reduced
Project-readiness gaps	Budgeting precedes technical maturity	Readiness gates before budget admission	Projects enter the budget as tender-ready commitments	BoQs/designs completed before appropriation
Late release and annuality trap	Cash arrives after execution window has closed	20% capital carry-over and MTEF scheduling	Construction continuity is protected across fiscal years	Reduced fund surrender and site abandonment
Audit fear and defensive compliance	Institutional software rewards caution	Safe-harbour rules for good-faith delivery decisions	Reasonable discretion becomes professionally safer	Initiative and timely action increase
Weak delivery incentives	Completion is not sufficiently rewarded	Delivery-based performance contracts	Non-delivery becomes visible and consequential	Physical completion targets achieved
Coordination silos	Execution chain is fragmented	Monthly capital execution war-room	Planning, procurement, finance, and supervision are synchronized	Stalled-node resolution time reduced
Centralized implementation burden	Local opportunities remain underused	Community-driven construction pilot	Simple projects are moved closer to beneficiaries	Unit cost and completion time reduced

### 5.3 Scholarly and Practical Contribution

The article contributes to public financial management scholarship in three principal ways. First, it reframes capital budget underutilization as conversion failure rather than mere absorption failure. The distinction is important because a system may report expenditure while still failing to deliver meaningful infrastructure. The conversion perspective requires financial records to be read alongside physical outputs.

Second, the article integrates structural and institutional explanations. Many analyses of budget execution privilege either technical bottlenecks or cultural behaviour. The evidence presented here shows that neither explanation is sufficient on its own. Structural procedures create the delay environment, but institutional culture determines how officials respond to that environment. The BECM therefore offers a combined account of execution failure as interaction.

Third, the article advances a reform logic grounded in delivery orientation. Rather than calling generally for more funding or better compliance, the framework specifies the administrative mechanisms through which appropriations can be converted into assets: procurement specialization, delegated authority, readiness gates, carry-over flexibility, delivery-based incentives, coordination routines, and controlled decentralization.

The practical contribution lies in the model's diagnostic usability. Ministries responsible for infrastructure-heavy expenditure can use the BECM to identify whether underutilization is being produced primarily by time loss, veto nodes, project unreadiness, late cash release, audit fear, weak incentives, coordination silos, or interactions among these factors. The model can also support parliamentary oversight by shifting attention from "Was money spent?" to the more substantive question: "Was public value delivered?"

### 5.4 Limitations

Several limitations should be acknowledged. First, the analysis is sector-specific and institution-specific. Although the findings may be transferable to other infrastructure-heavy ministries, they should be adapted rather than mechanically generalized. Second, the study relied partly on self-reported perceptions from officials within the execution chain. This limitation was mitigated through documentary and audit triangulation, but perception data

remain shaped by role location and institutional experience. Third, physical infrastructure quality was not assessed through engineering audit. The focus was placed on budget conversion, execution processes, and delivery rates rather than technical assessment of built structures. Fourth, macroeconomic volatility and currency transitions complicated longitudinal comparison. For that reason, percentages, ratios, lead times, and physical outputs were emphasized more than nominal values.

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The authors declare that they not aware of any competing financial interests or personal relationships that may have influenced the work described in this document.

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### **Ethical considerations**

The article followed all ethical standards appropriate for this kind of research.

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