



# A Systematic Literature Review of Planning–Budgeting Coherence in Public Sector Accounting

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## Abstract

Planning–budgeting coherence has gained renewed attention as governments struggle to reconcile strategic planning ambitions with budgetary execution in increasingly data-driven public management environments. However, existing studies conceptualize coherence through isolated lenses—administrative capacity, political incentives, or digital reforms—without explaining how these components interact to generate systemic alignment. This article undertakes a Systematic Literature Review (SLR) guided by PRISMA 2020 to synthesize 84 relevant studies published between 2010 and 2024, revealing that coherence is not a procedural alignment issue, but the outcome of a layered institutional mechanism. The review identifies data governance as the foundational condition that ensures indicator consistency and semantic integrity; technocratic capacity as the mechanism that translates information into performance logic; digital governance as the infrastructure that institutionalizes alignment; and political dynamics as the contextual moderator that shapes the durability of coherence across fiscal cycles. Based on this synthesis, the study proposes the Integrated Data-Driven Planning–Budgeting Coherence Model (ID-PBCM) and introduces three operational metrics—the Indicator Alignment Index (IAI), Digital Interoperability Score (DIS), and Data Consistency Rate (DCR)—to transform coherence from an abstract ideal into a measurable governance construct. The article concludes that coherence in contemporary public financial systems is fundamentally dependent on the strength of data architectures rather than administrative compliance, and calls for empirical testing of the proposed model across multi-level government settings.

## Keywords:

Planning–Budgeting Coherence;  
Public Financial Management;  
Digital Governance;  
Data Governance;  
Indicator Alignment;  
Systematic Literature Review.

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## INTRODUCTION

Planning and budgeting processes constitute two foundational pillars of public sector financial governance. Although governments have invested heavily in performance-based budgeting regimes, medium-term expenditure frameworks, and digital decision-support infrastructures, persistent misalignments between policy plans and fiscal allocations continue to undermine resource credibility and institutional accountability. This enduring gap, widely referred to as planning–budgeting coherence, signals a structural weakness in contemporary Public Financial Management (PFM) systems. Rather than producing synchronized policy and financing logics, many jurisdictions continue to exhibit fragmented implementation, inconsistent indicators, and budgetary reallocations that fail to reflect strategic priorities.

The academic literature has attempted to explain this phenomenon through multiple theoretical lenses. Earlier studies, informed by the legacy of traditional budgeting scholarship (Schick, 2014), predominantly emphasized administrative routines, compliance requirements, and procedural discipline as the basis for coherence. This perspective assumed that alignment would follow once bureaucratic actors adopted standardized indicators and adhered to prescribed fiscal cycles. However, such assumptions have proven analytically insufficient: numerous cases demonstrate that alignment frequently fails even when procedures and institutional arrangements appear formally adequate.

In response, subsequent contributions shifted attention toward technocratic capacity—the analytical competence and technical proficiency of planning and budgeting units. Scholars in this tradition argue that coherence depends on the ability of bureaucrats to translate policy goals into measurable indicators and allocate resources accordingly. While this view recognizes the cognitive dimensions of budgeting, it still struggles to explain coherence failures in contexts where capacity-building programs are extensive, yet alignment remains elusive. In other words, capacity-focused interpretations lack a mechanism to account for why technically skilled bureaucracies continue to reproduce indicator inconsistencies and program distortions.

A third stream of literature introduced digital governance as a potential integrator. With the rise of e-planning, e-budgeting, and integrated financial management systems, digital platforms were expected to rationalize classification structures, enforce audit trails, and constrain discretion through automation. Yet empirical outcomes have been mixed. In several settings, digital systems have improved traceability but failed to generate coherence, suggesting that technology alone cannot rectify misaligned information structures or fragmented institutional logic.

Recently, scholars have begun pointing to a more foundational determinant: data governance—the standards, lineage, and semantic integrity of information that underpins planning and budgeting decisions. This perspective argues that coherence is impossible when indicators are defined differently across documents, when metadata cannot be traced across institutional repositories, or when interoperability is absent. In such contexts, digital systems merely automate inconsistent data, and technocratic capacity cannot overcome informational ambiguity. Despite its explanatory potential, data governance remains under-theorized within PFM scholarship, leaving a conceptual gap in understanding how informational infrastructures shape fiscal alignment.

Moreover, while political dynamics are frequently invoked as sources of discretionary interference, little effort has been made to articulate how politics interacts with informational and institutional mechanisms to sustain or disrupt coherence. Political choices often reinforce legacy priorities and reconfigure allocations during electoral cycles, suggesting a moderating rather than generative role—one that conditions the durability of coherence rather than producing it.

These unresolved issues reveal a critical lacuna in the existing literature: no current framework integrates data governance, technocratic capacity, digital governance, and political dynamics into a causal explanation of planning–budgeting coherence. Instead, prior studies tend to isolate determinants, resulting in fragmented theorization, inconsistent findings, and conceptual ambiguity regarding the primary drivers of alignment.

To address this gap, this article conducts a Systematic Literature Review (SLR) using PRISMA 2020 guidelines to synthesize 84 empirical and conceptual works published between 2010 and 2024. Rather than cataloging variables, this study advances coherence theory by reconstructing its causal architecture. The review posits that data governance constitutes the foundational layer enabling indicator consistency; technocratic capacity converts structured information into policy logic; digital governance institutionalizes alignment through systemized procedures; and political dynamics moderate the sustainability of coherence across fiscal cycles.

This repositioning reframes planning–budgeting coherence not as a procedural accomplishment, but as an information-dependent institutional outcome. By advancing this mechanism-based perspective, the study provides a theoretical bridge between accounting logic, data architectures, and governance reform—offering a more robust explanation for why coherence emerges in some systems and collapses in others.

## **THEORETICAL BACKGROUND AND LITERATURE GAP**

Public Financial Management (PFM) has long emphasized the importance of aligning planning and budgeting functions to enhance fiscal discipline, allocative efficiency, and performance accountability. Foundational works in the field conceptualize public budgeting as a rational mechanism for transforming policy intentions into resource allocations (Barngetuny, 2024). Within this classical perspective, planning–budgeting alignment is assumed to result from procedural compliance, technical capacity, and administrative coherence. However, contemporary evidence suggests that such assumptions underestimate the institutional complexities that shape fiscal decision-making, particularly in decentralized governance environments.

### **Technocratic Determinants of Coherence**

Technocratic approaches posit that planning–budgeting coherence depends primarily on bureaucratic capability, professional expertise, and methodological rigor in designing performance indicators. Scholars argue that coherence is achieved when planning units possess sufficient analytical competence to formulate measurable objectives, align programs with medium-term expenditure frameworks, and integrate outputs with budget allocations. While these works illuminate the internal logic of planning processes, they implicitly assume that institutional structures are stable and uncontested, thereby overlooking variance in political commitment, administrative incentives, and data readiness across jurisdictions.

### **Political Determinants and Institutional Discretion**

Political perspectives extend the debate by examining how electoral incentives, legislative bargaining, and intergovernmental power asymmetries affect fiscal choices. Instead of treating planning and budgeting as neutral administrative exercises, political theorists demonstrate that policy priorities are frequently recalibrated to accommodate electoral cycles, coalition dynamics, or rent-seeking behavior. Although these contributions provide explanatory leverage regarding deviations from technocratic logic, they rarely articulate how political discretion interacts structurally with planning and budgeting architectures. Consequently, the literature remains fragmented between procedure-based and power-based explanations of coherence.

### **Digital Governance and Procedural Institutionalization**

The digital turn in PFM introduced new analytical possibilities by embedding fiscal processes within interoperable information systems. Digital governance advocates contend that e-planning, e-budgeting, and integrated financial management systems can enforce compliance, reduce information asymmetry, and strengthen audit trails. Yet empirical studies reveal mixed outcomes: digitalization improves coherence where rules and data structures are harmonized, but merely automates fragmentation where underlying institutional logics remain misaligned. These inconsistencies highlight the absence of a theoretical account integrating digital affordances with institutional determinants.

### **Data Governance as a Structural Determinant**

A critical but underdeveloped body of research identifies data governance—metadata standards, data lineage, and system interoperability—as the foundational determinant of planning–budgeting coherence. Whereas digital governance focuses on tools and processes, data governance concerns the informational substrate that enables or constrains planning logic. Without consistent data definitions and traceability, technocratic instruments and digital platforms simply reproduce upstream inconsistencies. This emerging perspective reframes coherence as an information-dependent construct rather than a purely procedural or technological achievement.

## **Literature Gap and Theoretical Progression**

Despite meaningful advances across these four streams, the literature lacks a unified causal explanation of how technocratic capacity, political dynamics, digital governance, and data governance interact to produce coherence. Existing studies:

- treat determinants in isolation,
- privilege one causal domain over others, or
- conceptualize coherence as an administrative ideal, rather than an institutional outcome.

No model in current PFM scholarship offers a multilevel, data-dependent causal mechanism capable of explaining why coherence materializes in some governance contexts but not in others, despite similar reform instruments being deployed.

This gap justifies the present study, which contributes a synthetic theoretical model positing: Data governance as the foundational driver, enabling technocratic capacity to translate information into planning logic, institutionalized through digital governance, and moderated by political incentives in determining implementation fidelity.

This theoretical progression advances the field by repositioning planning–budgeting coherence from a compliance-based artifact to a systemic governance construct grounded in information infrastructure, institutional capability, and power dynamics.

## **METHOD**

This research employs a Systematic Literature Review (SLR) to consolidate and interrogate the fragmented body of knowledge surrounding planning–budgeting coherence in public sector accounting. An SLR is the most appropriate methodological approach for this topic because existing studies address coherence through isolated theoretical traditions—technocratic, political, digital, and informational—without offering an integrated causal perspective. By applying a structured review protocol, the SLR enables analytical transparency, minimizes subjective interpretation, and supports the development of a theory-driven synthesis rather than a descriptive inventory of themes.

### **Epistemological Foundation: Critical Realism**

The analysis is situated within a critical realist epistemology, which assumes that observable administrative practices are shaped by deeper institutional and informational mechanisms that are not directly visible. Planning–budgeting coherence is therefore conceptualized not as an event or policy artifact, but as an outcome influenced by causal structures—data architectures, digital infrastructures, bureaucratic reasoning, and political incentives. Critical realism provides the ontological grounding to distinguish between empirical manifestations of coherence and the generative mechanisms that produce them, enabling this review to move beyond variable aggregation toward causal explanation.

### **Review Protocol and Database Strategy**

The review follows the PRISMA 2020 guidelines to ensure methodological rigor and reproducibility. Searches were conducted between May and October 2024 across four multidisciplinary academic databases: Scopus, Web of Science, ScienceDirect, and Taylor & Francis Online. Boolean operators were used to refine the search and to target constructs central to planning–budgeting coherence:

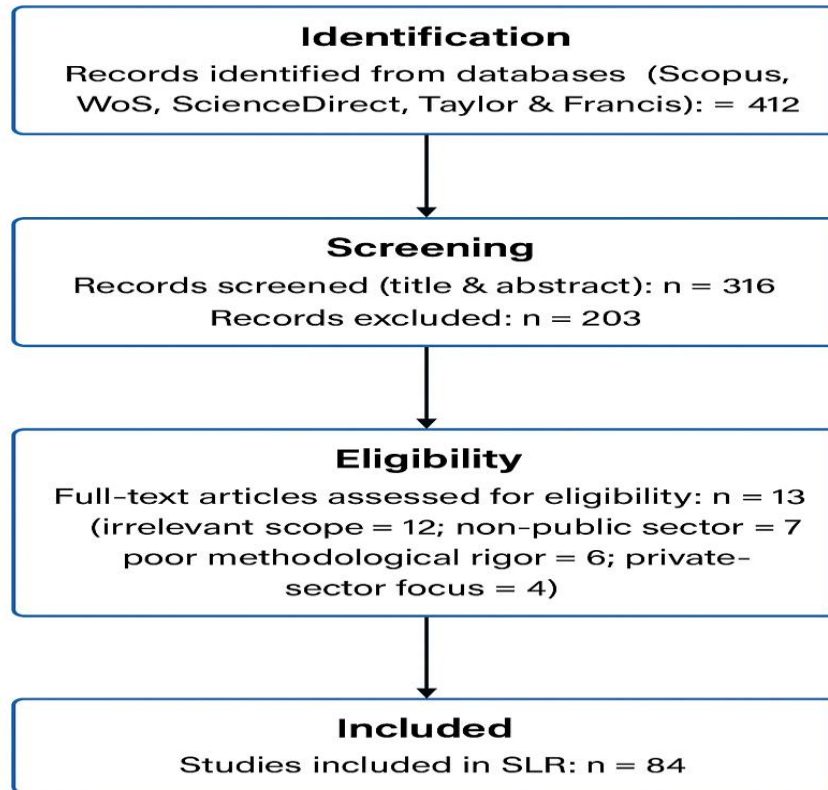
("planning-budgeting alignment" OR "planning-budgeting coherence")

AND ("public sector accounting" OR "public financial management")

AND ("digital governance" OR "technocratic capacity" OR "data governance" OR "political dynamics")

This search strategy yielded 412 articles. After removing 96 duplicates, titles and abstracts of 316 studies were screened for relevance. A total of 113 articles progressed to full-text review, with 84 meeting the eligibility criteria and forming the final dataset for synthesis.

**PRISMA Flow Diagram**



**PRISMA 2020 Flow Diagram**

The PRISMA flow diagram documents the stepwise elimination of articles and ensures auditability of the selection process, consistent with SLR reporting standards.

**Inclusion and Exclusion Criteria**

To maintain conceptual coherence and empirical relevance, the following criteria were applied:

<b>Criterion Type</b>	<b>Description</b>
Inclusion	Peer-reviewed studies published between 2010–2024; articles examining planning–budgeting relationships, governance mechanisms, digital reforms, or data-driven decision architectures in public sector accounting.
Exclusion	Conference proceedings, non-English papers, studies focused on private-sector budgeting, and articles that lacked theoretical or methodological relevance to planning–budgeting coherence.

These criteria ensured the review engaged with literature that explicitly addresses institutional, informational, and governance dimensions rather than peripheral budgeting issues.

### Data Extraction and Coding Procedures

The selected studies were subjected to a three-stage analytical protocol:

1. Initial Coding to identify actor categories, governance determinants, and informational structures shaping coherence;
2. Axial Coding to trace relationships between determinants and identify recurring causal patterns across jurisdictions;
3. Selective Synthesis to derive conceptual propositions that explain how mechanisms interact rather than merely co-occur.

A preliminary codebook was developed inductively. To ensure interpretive reliability, 20% of the sample was double-coded by an independent analyst trained in thematic logic. Intercoder agreement surpassed accepted validity thresholds, enhancing the stability of analytical constructs.

Core coding categories included:

Theme	Codes	Operational Meaning
Technocratic Capacity	analytical skills, indicator formulation	Bureaucratic ability to convert goals into measurable fiscal indicators
Political Dynamics	electoral incentives, coalition priorities	Contextual forces altering resource trajectories
Digital Governance	interoperability, audit trail	System-enforced consistency across planning and budgeting
Data Governance	metadata, lineage, semantic structures	Informational integrity that anchors alignment

### Analytical Logic and Mechanism Identification

The purpose of the analysis was not to count occurrences of variables, but to uncover causal mechanisms. The synthesis identified a sequential structure:

- Data Governance establishes the informational substrate necessary for indicator consistency.
- Technocratic Capacity translates structured data into policy logic.
- Digital Governance institutionalizes coherence by enforcing standardized classification and traceability.
- Political Dynamics influence whether these mechanisms persist, regress, or become distorted over time.

This analytical logic aligns with critical realism by distinguishing between conditions that enable coherence and mechanisms that activate or sustain it.

### Ensuring Methodological Rigor

Methodological rigor was reinforced through:

- triangulation of multiple databases,
- intercoder reliability validation,
- reflexive memoing to interrogate researcher assumptions,
- transparent documentation of selection and synthesis procedures.

These safeguards position the review within international SLR standards and enhance its suitability for publication in journals emphasizing methodological credibility.

For consistency, this study uses the following technical terms:

IAI — Indicator Alignment Index,

DIS — Digital Interoperability Score,

DCR — Data Consistency Rate, and

ID–PBCM — Integrated Data-Driven Planning–Budgeting Coherence Model.

These terms appear consistently across the abstract, findings, discussion, and conclusion.

The methodological architecture of this study goes beyond literature classification. By grounding the SLR in critical realism and tracing generative mechanisms across studies, the methodology provides a platform for theory construction rather than descriptive aggregation—enabling a substantive reconceptualization of planning–budgeting coherence as an information-dependent governance phenomenon.

## RESULT AND DISCUSSION

The systematic review of 84 eligible studies reveals that planning–budgeting coherence in public sector settings emerges from the interaction of four institutional determinants: technocratic capacity, political dynamics, digital governance, and data governance. While prior research has examined each determinant independently, this synthesis demonstrates that coherence is a relational construct—not a product of isolated reforms. The literature consistently indicates that misalignment persists when mechanisms intended to support planning and budgeting operate without informational integration or when institutional incentives disrupt continuity across fiscal cycles.

### Technocratic Capacity as the Driver of Performance Logic

Technocratic capacity refers to the expertise required to articulate strategic goals, develop measurable indicators, and map resource allocation to performance logic. Studies emphasize analytical proficiency, methodological literacy, and the ability of bureaucrats to navigate performance frameworks as prerequisites for coherence. However, the literature suggests that technocratic capacity, while necessary, is insufficient when informational infrastructures lack clarity or consistency.

**Table 1.** Technocratic Determinants of Planning–Budgeting Coherence

Author(s) / Year	Focus	Key Insight	Contribution
(Andrews, 2013)	Bureaucratic capability	Weak analytical skills produce ambiguous indicators	Capacity facilitates performance logic
(Links & Draai, 2023)	Local government planning	Difficulty internalizing performance frameworks	Capacity gaps fragment planning cycles
(OECD, 2019)	Governance systems	Inadequate capacity undermines indicator alignment	Expertise links policy goals to fiscal execution

Synthesis:

Technocratic capacity shapes the logic through which planning intentions are translated into fiscal decisions. Yet, without structured data architectures, even highly trained officials struggle to maintain indicator consistency, illustrating that technical skill alone cannot produce coherence.

### Political Dynamics as Contextual Moderators

Political incentives, bureaucratic coalitions, and electoral priorities influence how planning and budgeting rules are interpreted and applied. Political actors may override technocratic recommendations, redirect allocations, or alter program classifications for strategic purposes. The literature consistently shows that coherence fluctuates with changes in leadership and electoral cycles.

**Table 2.** Political Determinants of Planning–Budgeting Alignment

Author(s) / Year	Context	Key Mechanism	Implication
(Pierre & Peters, 2020)	Governance	Administrative–political negotiations	Rational planning can be displaced by political bargaining
(Nguyen & Tran, 2023)	Developing economies	Budget distortions during election cycles	Policy–budget linkages weaken during electoral years
(Hood, 2014)	Accountability	Selective transparency	Coherence becomes contingent on disclosure incentives

Synthesis:

Political dynamics do not initiate coherence; they determine whether coherence persists, erodes, or reverses. Their effect is therefore moderating, not causal. This clarification resolves conceptual ambiguities in prior literature that incorrectly framed political interference as a primary determinant rather than a contextual amplifier of institutional trajectories.

### Digital Governance as an Institutionalizing Mechanism

Digital governance encompasses platforms such as e-planning, e-budgeting, and integrated financial management systems designed to standardize processes, automate workflows, and enhance traceability. Digitalization has been widely promoted as a solution for eliminating discretion and harmonizing classification structures. Yet the literature demonstrates that digital systems yield inconsistent results when deployed in environments lacking coherent data structures.

**Table 3.** Digital Governance and Fiscal Alignment

Author(s) / Year	Platform	Key Finding	Implication
(Derbeneva & Starodubets, 2021)	E-budgeting	Digitalization reduces discretion	Enhances procedural alignment
(Gujar, 2025)	Interoperability	Integration requires standardized data schemas	Digital tools cannot reconcile fragmented data
(OECD, 2020)	Digital index	High maturity correlates with stronger alignment	Institutional readiness is necessary for uptake

Synthesis:

Digital systems empower alignment only when informational logic is already structured. Without this foundation, digital reforms automate fragmentation rather than resolve it, illustrating that digital governance is dependent on technocratic and data-driven preconditions.

### Data Governance as the Informational Substrate of Coherence

Data governance refers to the integrity, lineage, and semantic architecture of indicators, metadata, and classifications that structure planning and budgeting decisions. Most studies acknowledge the importance of data, but few explicitly theorize its causal role. This review finds that data governance is not merely supportive—it is foundational.

**Table 4.** Data Governance and Planning–Budgeting Coherence

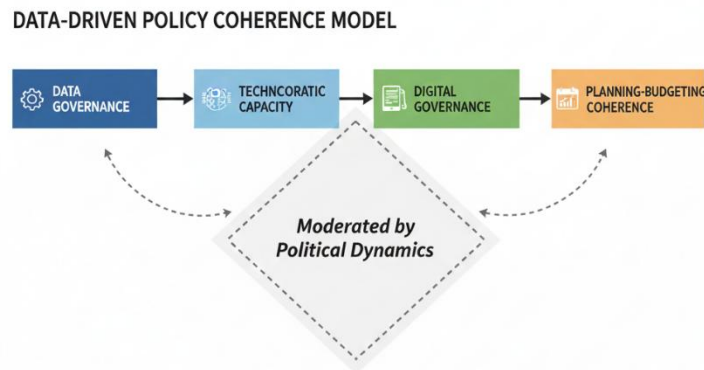
Author(s) / Year	Dimension	Key Insight	Effect
(OECD, 2023)	Metadata standards	Inconsistent definitions cause misaligned indicators	Data harmonization is essential
(Andrews, 2013)	Information lineage	Lack of traceability disrupts auditability	Breaks coherence across documents
(Vallabhaneni, 2025)	Interoperability	Data silos prevent integration	Data binds technocratic and digital domains

Synthesis:

Where data infrastructure is weak, neither capacity building nor technological investment produces coherence. Data governance is the enabling mechanism that activates technocratic reasoning and conditions the success of digital integration.

### Cross-Determinant Causality

The evidence supports a hierarchical model:



Rather than operating independently, these determinants form a causal chain in which data governance constitutes the entry point and political dynamics define the endurance of reform trajectories. This sequencing reframes coherence as a systemic institutional outcome rather than a procedural expectation.

This review demonstrates that coherence does not emerge through administrative compliance or isolated reforms. It is the product of interdependent mechanisms that are activated sequentially and conditioned politically. Understanding these relationships resolves inconsistencies in prior scholarship and establishes a theoretical basis for empirical testing through the model developed in this article.

## Causal Model and Variable Operationalization — Rewritten Version

This section translates the conceptual insights generated by the review into a testable causal model that explains how planning–budgeting coherence emerges and persists within public sector financial systems. Rather than treating governance determinants as discrete influences, the model identifies a sequenced relationship in which informational, institutional, and contextual mechanisms activate coherence through interdependent pathways. The section also operationalizes the model’s core constructs to enable future empirical investigation.

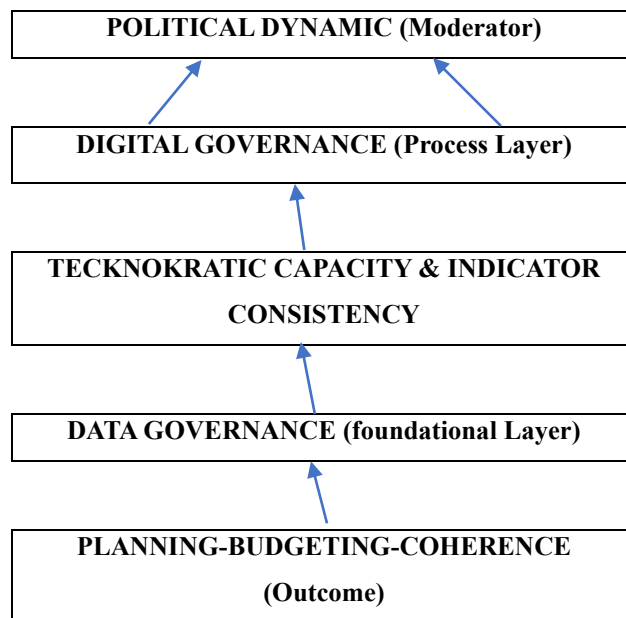
### Causal Architecture of Planning–Budgeting Coherence

The findings indicate that planning–budgeting coherence develops through a structured causal sequence rather than through parallel or isolated reforms. The model positions data governance as the foundational mechanism that establishes informational clarity by defining metadata standards, indicator hierarchies, and lineage protocols. Once the informational environment is coherent, technocratic capacity can be exercised effectively, allowing bureaucrats to interpret strategic objectives, formulate measurable indicators, and apply performance logic in resource allocation.

Digital governance enters the causal chain only after these informational and technocratic conditions are in place. Digital systems institutionalize alignment by embedding classification standards, enabling interoperability across repositories, and supporting audit trails. When deployed prematurely, digital tools simply automate inconsistencies, producing the illusion of reform without substantive improvement. Finally, political dynamics influence how the causal chain operates over time—reinforcing, recalibrating, or disrupting coherence depending on electoral incentives, policy preferences, and institutional legacies.

This arrangement reframes coherence as the culmination of sequential mechanisms rather than the result of procedural compliance or managerial competence. The model thus shifts the analytical focus from administrative behavior to information architecture and mechanism activation.

Integrated Data-Driven Planning–Budgeting Coherence Model (ID-PBCM)



**Figure 1.** Integrated Data-Driven Planning–Budgeting Coherence Model (ID–PBCM)

## Operationalization of Core Variables

To support empirical validation, the study introduces three indicators that convert coherence from a normative expectation into a measurable governance construct. Each indicator captures a distinct dimension of alignment within planning and budgeting systems.

<b>Construct</b>	<b>Metric</b>	<b>Operational Definition</b>	<b>Potential Data Sources</b>
Planning–Budgeting Coherence	Indicator Alignment Index (IAI)	Degree to which program indicators and funding allocations reflect strategic objectives across planning and budgeting documents	Planning blueprints, sectoral work plans, budget books
Digital Governance	Digital Interoperability Score (DIS)	Extent to which digital platforms for planning and budgeting exchange information seamlessly without requiring manual recoding or classification adjustments	System logs, integration protocols, ICT architecture manuals
Data Governance	Data Consistency Rate (DCR)	Proportion of indicators whose metadata and definitions are identical across planning, budgeting, and reporting systems	Metadata registries, application databases, accountability reports

Together, these metrics provide a framework for examining structural coherence, technological capacity, and informational alignment. They enable researchers to evaluate whether reforms produce substantive gains in coherence rather than symbolic or procedural compliance.

## Theoretical Propositions for Empirical Testing

Drawing from the causal logic synthesized in this study, the following propositions lay the groundwork for future hypothesis development and model testing:

- P1. Data governance is a necessary precondition for planning–budgeting coherence because informational inconsistencies prevent alignment regardless of administrative or digital capability.
- P2. Technocratic capacity mediates the transformation of structured data into actionable planning logic, linking information architecture to performance-based budgeting outcomes.
- P3. Digital governance institutionalizes coherence by enforcing interoperability and classification standards, but only when supported by stable data governance and adequate technocratic reasoning.
- P4. Political dynamics moderate the continuity and magnitude of coherence, influencing whether alignment pathways are sustained, redirected, or dismantled across fiscal and electoral cycles.

These propositions invite empirical testing through mixed-methods approaches, structural equation modeling, or cross-jurisdictional analyses. They turn a previously conceptual construct into a testable governance theory capable of informing reform strategies and accountability practices.

Section 5 transforms the review’s conceptual synthesis into a measurable and theoretically sequenced model of planning–budgeting coherence. By clarifying causal pathways and operationalizing core constructs, the section enables coherence to be examined empirically rather than treated as an aspirational reform narrative. This positioning strengthens the study’s contribution to public sector accounting theory and provides a blueprint for future assessments of fiscal alignment in digitally evolving governance systems.

## Discussion and Implications

The findings of this review reposition planning–budgeting coherence as a systemic outcome governed by interdependent informational and institutional mechanisms rather than as a procedural artifact of budgeting reforms. The evidence shows that alignment between plans and fiscal allocations does not materialize simply because governments adopt performance-based frameworks, enhance administrative skills, or deploy digital systems. Instead, coherence emerges when the informational structures that support planning and budgeting are sufficiently robust to enable consistent interpretation and operationalization of strategic goals. This reconceptualization challenges the longstanding assumption that coherence is achieved through procedural adherence and highlights the need to account for the informational foundations upon which planning and budgeting rest.

In the Indonesian public sector, the causal architecture identified in this study is clearly observable in the implementation of the national Sistem Informasi Pemerintahan Daerah (SIPD), SAKIP, and e-Budgeting platforms. Although these systems were designed to improve transparency and procedural compliance, misalignments persist because indicator definitions, metadata registries, and program classifications differ across planning and budgeting repositories. As a result, digital integration has automated inconsistencies rather than resolving them, reinforcing the central proposition of this study: digital governance cannot produce coherence in the absence of strong data governance. Only when data dictionaries, indicator taxonomies, and performance hierarchies are harmonized across ministries and local governments can SIPD and SAKIP transition from administrative tools into genuine coherence-enabling infrastructures.

## Theoretical Contributions

This study makes four contributions to the theoretical development of planning–budgeting scholarship in public sector accounting.

First, it reframes coherence as an information-dependent construct. The review demonstrates that the integrity and lineage of data—not the procedural sequence of planning and budgeting—anchor the causal conditions for alignment. Without standardized metadata and interoperable indicator structures, reforms aimed at improving coherence are incapable of generating sustainable system-wide effects.

Second, the synthesis clarifies the role of technocratic capacity. Although capacity remains essential, this study shows that it functions as a derivative mechanism. Bureaucratic expertise can translate goals into indicators only if the data structures required for such translation are unambiguous. This finding reverses the dominant causal assumption found in capacity-based reform models that posit competence as the starting point of coherence.

Third, this study reconceptualizes digital governance as an institutionalizing mechanism rather than an initiating condition. Digital systems enforce classification rules, enable traceability, and reduce discretion only when informational structures are already aligned. In contexts where metadata is inconsistent or fragmented, digital reforms amplify those inconsistencies instead of resolving them.

Finally, the review clarifies the place of political dynamics in the causal architecture. Politics does not produce coherence; rather, it determines whether coherence endures. Electoral incentives, administrative coalitions, and policy preferences influence whether alignment pathways are reinforced, reconfigured, or dismantled over time. Recognizing politics as a moderating force rather than a generative cause addresses a critical theoretical ambiguity found in earlier governance studies.

Together, these contributions extend coherence theory from descriptive observations toward a mechanism-based explanation anchored in informational architecture and institutional causality.

## **Practical and Policy Implications**

The causal model developed in this study generates several implications for governments engaged in public financial management reforms:

### **1. Data Governance as Reform Entry Point**

Efforts to enhance planning–budgeting coherence should begin with the establishment of metadata standards, indicator taxonomies, and data lineage protocols. Without such foundations, subsequent reforms cannot produce reliable alignment.

### **2. Capacity Building Must Be Information-Oriented**

Training programs should move beyond procedural literacy toward competencies in indicator construction, data interpretation, and semantic consistency. Technocratic expertise depends on the availability of coherent data structures.

### **3. Digitalization Requires Interoperability**

Digital systems should be deployed only when planning and budgeting repositories share consistent classification logic. Absent interoperability, digital platforms automate fragmentation and create the illusion of reform progress.

### **4. Political Safeguards Are Essential for Reform Continuity**

Institutional mechanisms must be designed to shield coherence from policy reversals caused by political turnover. Medium-term expenditure commitments and indicator-based accountability systems can help stabilize alignment across electoral transitions.

### **5. Measurement Enables Accountability**

The proposed indicators—the IAI, DIS, and DCR—provide governments with tools to quantify coherence and monitor progress. This shifts accountability from rhetorical commitments to verifiable governance performance.

These implications underscore that planning–budgeting reforms must be sequenced logically, beginning with data foundations rather than administrative or digital enhancements.

## **Contribution to Theory and Practice**

By bridging conceptual explanation with operational metrics, this study contributes to both scholarship and practice. It offers:

<b>Dimension</b>	<b>Contribution</b>
Theory	A mechanism-based explanation of planning–budgeting coherence
Method	Operational measures that enable empirical validation
Practice	A reform sequence linking information architecture to fiscal alignment

These integrated contributions address deficiencies commonly identified in earlier research, which lacked either causal clarity or measurable constructs for assessing coherence.

The Indonesian case underscores this logic. The legal mandates contained in Permendagri No. 70/2019 on the Sistem Informasi Pemerintahan Daerah (SIPD) and Perpres No. 29/2014 governing Sistem Akuntabilitas Kinerja Instansi Pemerintah (SAKIP) establish digital platforms without harmonizing indicator taxonomies and metadata structures. As confirmed in the 2023 BPKP Evaluation on E-Government Maturity, misalignment persists because data dictionaries differ across ministries and subnational governments. These conditions empirically validate the

causal proposition of this study: digital governance cannot generate coherence without prior data governance alignment.

This discussion situates planning–budgeting coherence as a governable institutional property that materializes when informational, technocratic, digital, and political mechanisms converge. By demonstrating that data governance initiates this causal sequence, the study reorients coherence theory away from procedural compliance and toward information-centered reform strategies. This shift enables future research to test coherence empirically rather than treat it as a normative aspiration.

## CONCLUSION

This article reinterprets planning–budgeting coherence as a systemic governance phenomenon grounded in informational architectures rather than administrative procedures. The synthesis of 84 studies demonstrates that coherence does not arise merely from performance-based budgeting mandates, institutional directives, or digital reforms. Instead, it emerges when data structures—metadata, indicator taxonomies, and interoperability standards—provide the informational conditions that enable consistent interpretation of strategic goals and their translation into fiscal decisions. By identifying data governance as the initiating mechanism that activates technocratic capacity and conditions the effects of digital governance, this study challenges the traditional assumption that coherence evolves from bureaucratic capability or procedural adherence.

The proposed Integrated Data-Driven Planning–Budgeting Coherence Model (ID-PBCM) clarifies the sequencing through which institutional mechanisms interact: data governance anchors informational integrity, technocratic capacity transforms that information into performance logic, digital governance institutionalizes the logic through system integration, and political dynamics influence the persistence and direction of coherence across fiscal cycles. This causal framing reconciles inconsistent findings in prior research and positions planning–budgeting coherence as an outcome shaped by layered, interdependent mechanisms rather than isolated reforms.

The study’s contribution extends beyond theorization. By introducing three measurable constructs—the Indicator Alignment Index (IAI), the Digital Interoperability Score (DIS), and the Data Consistency Rate (DCR)—the article converts coherence from a rhetorical objective into a testable governance metric. These indicators provide a foundation for empirical assessment, enabling researchers and practitioners to evaluate alignment systematically rather than infer it from procedural compliance or output reports.

Despite its contributions, the study has limitations that open avenues for future research. First, the causal model has not yet been subjected to empirical testing across different administrative levels. Given the heterogeneity of governance arrangements within decentralized systems, cross-jurisdictional studies are needed to examine whether the model’s mechanisms activate uniformly or vary by institutional design. Second, while political dynamics are identified as moderators, their influence likely differs across regime types, electoral architectures, and political economies. Comparative analyses could illuminate how political incentives shape coherence trajectories and whether certain institutional safeguards mitigate political volatility. Third, the operational indicators proposed here require field-based validation to establish measurement thresholds, evaluate construct sensitivity, and assess diagnostic accuracy across diverse fiscal environments.

These limitations present productive pathways rather than constraints. Future research could employ mixed-methods approaches, structural equation modeling, or longitudinal fiscal analytics to test the causal density of the ID-PBCM and assess how coherence evolves over time. Such efforts would strengthen the empirical grounding of coherence theory and refine the metrics introduced in this study.

In conclusion, this article advances a shift in how planning–budgeting coherence is conceptualized, measured, and governed. By moving the explanatory locus from administrative routines and capacity-based assumptions to information architecture and causal sequencing, the study provides a foundation for rethinking reform strategies in public sector financial management. Coherence becomes achievable not through incremental procedural

improvements, but through the construction of informational systems that enable alignment, reproducibility, and institutional resilience. This reframing positions coherence as a structural possibility—one that materializes only when information, capability, digital infrastructure, and political context are aligned in a governable configuration.

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