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From Budget Revisions to Development Spending: A Methodological Review of Evidence Relevant to Kenya's County Governments

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Systematic Review

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Abstract

This review examines how research on public budget revisions and development budget absorption generates evidence relevant to Kenya's county governments. PRISMA 2020 reporting principles guided the reassessment of 300 established article records. Screening identified 138 reports for retrieval; 81 were unavailable in an eligible version. Of 57 reports examined, four were excluded, leaving 53 articles from 46 journals. The appraisal compared designs, sampling, measurement, analysis and the claims supported by each study. Administrative studies, surveys and qualitative case studies predominated. Recurring weaknesses included inconsistent budget denominators, shared financial components, self-reported absorption, selective samples and weak temporal identification. Review-specific judgements identified serious concerns in 21 reports and some concerns in 32. The findings favour explicit budget-version control, verified amendment histories and integration of financial records with institutional evidence. The selected starting collection, retrieval gaps and absence of independent appraisal limit the conclusions.

JEL classification: H61; H72; B41

1 Introduction

A methodological review examines how knowledge is produced and whether the evidence supports the conclusions drawn (Elasu et al., 2026). In public budgeting, absorption may mean audited expenditure divided by an appropriation, a programme's multiannual utilisation rate or officials' questionnaire responses. Treating these measures as equivalent can create apparent agreement between studies that examine different outcomes (Friyani and Hernando, 2019; Prijaković, 2026).

The motivating question concerns the frequency, intensity and timing of in-year revisions and development budget absorption across Kenya's 47 counties during FY2014/15–FY2023/24. Answering it requires clear budget definitions, dated amendment records and evidence about financing and implementation. This review therefore considers both studies that measure budget outcomes directly and those that explain the institutions through which spending occurs.

Following the methodological focus illustrated by Elasu et al. (2026), the review asks which designs and data are used, how well methods fit research questions, where measurement and inference are weak, and what lessons apply to a Kenyan county panel. It provides a critical synthesis rather than a pooled estimate of the effect of supplementary budgets.

2 Materials and methods

2.1 Study design

A methodological literature review was used to assess research designs, sampling, measurement, analysis and the relationship between evidence and conclusions. PRISMA 2020 guided reporting of

selection, retrieval and exclusions (Page, McKenzie, et al., 2021; Page, Moher, et al., 2021).

2.1.1 Planning the review

Planning focused on the methods needed to study in-year revisions and development budget absorption. The review questions informed checks of publication provenance, substantive relevance and report completeness. A structured extraction framework recorded each article's design, data, analysis, strengths and limitations. The following subsections explain these decisions.

2.1.1.1 Review scope and starting collection of articles

The review began with an established register of 300 distinct journal-article references assembled searches and Crossref identity checks. It did not conduct a new exhaustive database search. The earlier register retains the discovery provenance. Subsequent journal-policy and retrieval checks added no new articles.

PRISMA distinguishes records, reports, retrieval failures and exclusions (Page, McKenzie, et al., 2021; Page, Moher, et al., 2021). The anticipated sample size was not an eligibility rule: all 53 reports meeting the criteria were retained. Findings remain conditional on the selected starting collection and accessible full text.

2.1.1.2 Journal credibility and publication identity

Source screening checked DOI, title and article identity in Crossref, journal and publisher details, source-list evidence recorded for DOAJ, ABDC, the Norwegian register or MEDLINE, and discovery-metadata retraction flags. These checks establish publication provenance, not methodological validity. The journal audit distinguishes current publisher-policy evidence from catalogue-only records.

Similarly named journals were distinguished by publisher. For example, Ayem and Purwanto (2024) appeared in Maranatha's Jurnal Akuntansi, not Tarumanagara's journal. Maranatha's editorial policy and DOAJ record support that identification (Directory of Open Access Journals, no date; Maranatha Christian University, no date). The policies of JPPI, Archives of Business Research, RJOAS and Public and Municipal Finance describe peer review (Archives of Business Research, no date; Business Perspectives, no date; JPPI, no date; Russian Journal of Agricultural and Socio-Economic Sciences, no date). Declared policies do not reveal the confidential review history of individual papers.

2.1.1.3 Nature of publication and substantive focus

Eligible publications were journal articles with a traceable bibliographic identity. Non-journal items and unresolved publication identities were excluded.

Eligible research comprised original empirical reports, documented programme experience and budget-data scenario analysis. Reviews, commentary and conceptual or normative legal contributions without original empirical analysis were excluded.

The substantive focus was budget adjustment, execution, absorption, forecasting, capital-budget implementation or a direct budget-governance mechanism. General economic or governance topics without that connection fell outside scope.

Appraisal required a complete report or clearly linked accepted manuscript with extractable data and methods. Abstract-only pages, unconfirmed working-paper versions and insufficient reporting were excluded or held as unavailable, as appropriate.

Results were eligible regardless of direction or significance. Null or negative findings were not grounds for exclusion.

Titles and available abstracts were screened for relevance, followed by methods, measures, results and contextual passages in complete reports. Decisions rested on the reported study, not word counts in metadata. The 300-record audit separates screening exclusions from access and version problems. Abstract-and-reference pages were not accepted as full text.

2.1.1.4 Full text availability and version control

Reports were sought from public journal and repository locations, including linked PDFs. Published XML replaced an earlier preprint of the Kenyan execution study (Musiega et al., 2023). Clearly identified accepted manuscripts were eligible and labelled in the matrix; working papers without confirmed correspondence to a journal article were not. Access failure was not treated as evidence of poor quality.

The 81 unavailable reports include potentially important work, including early municipal rebudgeting studies. Their absence may bias the evidence towards particular settings, journals and designs. They are therefore recorded as not retrieved, not methodologically rejected.

2.1.2 Reporting and dissemination

Appraisal covered six domains: question–design fit; sampling and unit of analysis; measurement and source traceability; analysis and diagnostics; support for causal, predictive or interpretive claims; and relevance to the county question. Each article's matrix entry records its design, data, analysis, strengths, limitations and judgement. The framework is review-specific, not a validated MMAT or risk-of-bias score. No numerical ranking was used.

"Serious concerns" identifies material threats to interpretation, including unclear measurement, common-source or identification problems, very small predictive samples and inconsistent reporting. "Some concerns" denotes assessable evidence with remaining limits. These labels guide interpretation rather than determine eligibility. Reports were excluded only for failing the stated eligibility or minimum reporting criteria.

Screening, extraction and appraisal decisions are documented in the audit trail. There was no independent second reviewer, author contact or registered protocol. Author-reported methods are

distinguished from reviewer interpretation. Philosophical positions were classified only when explicitly stated, not inferred from estimators. Differences in outcomes and designs required narrative synthesis.

3 Results

3.1 Descriptive analysis

The descriptive analysis first traces article selection, then summarizes research designs and substantive focus. This provides context for assessing measurement, analytical choices and the claims supported by the evidence. The distributions describe this collection, not all budgeting research.

3.1.1 Selection of article reports

Screening excluded 162 of 300 records: 62 lacked an original empirical budget-process study and 100 fell outside the substantive scope. Of 138 reports sought, 81 were unavailable in an eligible, appraisable version. Fifty-seven complete reports were examined; four were excluded, leaving 53 articles from 46 journals. Every starting record has a documented decision in the workbook.

Full-text exclusions were specific: R044 did not establish the link between respondents and the public-budget unit; R100 synthesised earlier country reports; R103 lacked a sufficiently clear achieved sample and implemented analysis; and R140 did not operationalise its stated capital-project performance outcome. Detailed reasons remain in the audit.

R023 and R049 yielded abstract-and-reference pages rather than complete methods and results. R024 and R238 remained version-unresolved working papers. None was counted as a complete report examined for eligibility.

3.1.2 Composition of the included evidence

The design families are summarised in Table 2. The articles cover revision (4), credibility (11), execution (16), absorption (12), capital implementation (2), forecasting (1) and budget governance (7). Some provide measurement or institutional context rather than an amendment-to-absorption estimate. Fifty-three reports do not necessarily represent 53 independent samples.

Appraisal assigned serious concerns to 21 reports and some concerns to 32. These are reviewer judgements, not journal rankings. The article matrix explains the limitations behind each label.

Table 1
List of the papers assessed for methodological review

ID	Author(s) and year	Journal title
R009	Ledjon Shahini, Perseta Grabova (2023)	Economies
R012	Amor Marundha (2020)	Jurnal Tata Kelola dan Akuntabilitas Keuangan Negara
R013	Eva Herianti (2019)	Jurnal Tata Kelola dan Akuntabilitas Keuangan Negara
R014	Anita Musiega, Benjamin Tsofa, Lizah Nyawira, Rebecca G Njuguna, Joshua Munywoki, Kara Hanson, Andrew Mulwa, Sassy Molyneux, Isabel Maina, Charles Normand, Julie Jemutai, Edwine Barasa (2023)	Health Policy and Planning
R015	Rita Friyani, Riski Hernando (2019)	SRIWIJAYA INTERNATIONAL JOURNAL OF DYNAMIC ECONOMICS AND BUSINESS
R022	Renny Maisyarah (2026)	Public and Municipal Finance
R028	Simona Prijaković (2026)	Ekonomski vjesnik
R030	Jancen Roland Patty (2019)	Jurnal Tata Kelola dan Akuntabilitas Keuangan Negara
R034	Reny Andriati (2019)	Journal of Governance and Public Policy
R038	Retno Ambarwati Subhiningsih, Said Kelana Asnawi, Sufyati (2023)	JTAM (Jurnal Teori dan Aplikasi Matematika)
R039	Agus Bandiyono, Sekar Mayangsari (2021)	Jurnal Akuntansi
R040	Ronald Tehupuring (2021)	Jurnal Tata Kelola dan Akuntabilitas Keuangan Negara
R041	Sri Ayem, Tomi Purwanto (2024)	Jurnal Akuntansi (Maranatha Christian University)
R042	Elok Heniwati (2023)	Oblik i finansi
R043	Bambang Lesmono, Saparuddin, Nurlaila (2023)	JPPI (Jurnal Penelitian Pendidikan Indonesia)
R045	Pol Montemayor Cejas, Ricard Esparza Masana (2026)	Review of Regional Research
R046	Kanayo Kingsley Ogujiuba, Kizito Ehigiamusoe (2014)	Contemporary Economics
R050	José Luis Morales Rocha, Mario Aurelio Coyla Zela, Nakaday Irazema Vargas Torres, Jarol Teófilo Ramos Rojas, Daniel Quispe Mamani, José Oscar Huanca Frias (2020)	International Journal of Advanced Computer Science and Applications

ID	Author(s) and year	Journal title
R051	Eltin Yuli Astuti, Rien Agustin Fadjarenie (2024)	JPPI (Jurnal Penelitian Pendidikan Indonesia)
R052	Putri Ayu Sholihat, Yesi Mutia Basri, Nasrizal (2025)	Revista Catarinense da Ciência Contábil
R056	Patricia Bostan, Nicoleta Asaloș, Ionel Bostan (2022)	Ovidius University Annals Economic Sciences Series
R057	Louis P. Kandanda Maroy, Dieudonné Bahati Shamamba, Janvier Kilosho Buraye, Bosco Bashangwa Mpozi, Andrew Ogolla Egesa (2026)	Frontiers in Sustainable Food Systems
R060	Willem A Cecilia (2025)	Archives of Business Research
R062	Baldric Siregar, Lilis Susanti (2019)	Journal of Economics Business and Accountancy Ventura
R065	Ebru Yılmaz İnce, Oğuz Kuyumcu, Murat İnce (2026)	Mehmet Akif Ersoy Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi
R067	Alex Olateju Adjagba, James Odhiambo Oguta, Catherine Akoth, Solomon Kimutai Toweet, Peter Okoth, Debra Jackson (2025)	BMC Health Services Research
R087	Alex Amankwah-Poku, Alexander Preko (2022)	Asia-Pacific Management Accounting Journal
R102	Jodi Wishnia, Jane Goudge (2021)	BMJ Global Health
R119	Carlyn Mann, Elan Reuben, Susanna Baker, Mai Hijazi, A. K. Nandakumar, Padma Shetty, Rob Stanley, Onyeka Igboelina, Godfrey Nyombi, Dhimn Nzoya, Samson Oli, Garoma Kena, Carolina Piña, Jordan Tuchman, Kenneth Sklaw, Abimbola Kola-Jebutu, Ivana Lohar, Anh Nguyen Thi Cam, Simplice Takoubo Kamdem, Yves Maxime Kouadio Kouadio (2025)	BMC Health Services Research
R120	Daniel Chukwuemeka Ogbuabor, Obinna Emmanuel Onwujekwe (2019)	Health Economics Review
R124	Mohsin Raza Khan, Muhammad Arsalan Nazir, Sabeen Afzal, Jahanzaib Sohail (2023)	The International Journal of Health Planning and Management
R126	John De-Clerk Azure, Chandana Alawattage, Sarah George Lauwo (2024)	Accounting Auditing & Accountability Journal
R142	Nyamagere Gladys Sospeter, Bankole Osita Awuzie (2024)	Journal of Construction in Developing Countries
R143	Ken Coghill, Gabriele Buchholz, Wahed Waheduzzaman (2026)	Administrative Sciences

ID	Author(s) and year	Journal title
R146	Clares Owate, Wycliffe Muli Maingi, Angela Mungai (2025)	Journal of Accounting and Finance in Emerging Economies
R147	Dennis De Widt, Shuo Sun (2026)	International Review of Administrative Sciences
R148	Irwan Taufiq Ritonga, Vogy Gautama Buanaputra (2024)	Accounting Forum
R149	Alex Olateju Adjagba, James Odhiambo Oguta, Catherine Akoth, Elvis Omondi Achach Wambiya, Justice Nonvignon, Debra Jackson (2024)	Cost Effectiveness and Resource Allocation
R153	Chen Ye (2023)	Journal of risk analysis and crisis response
R156	Jinping Sun (2010)	California Journal of Politics and Policy
R157	Hafiez Sofyani (2018)	Foundations of Management
R159	Mihaela Bronić, Branko Stanić, Simona Prijaković (2022)	South East European Journal of Economics and Business
R161	Adekunle Sarafa Alade, Abdulhakeem Abdullahi Kilishi (2024)	Journal of Developing Economies
R167	A. Nicolás Lorenti, Rubén Mora-Ruano, Daniel Fernández Romero, Miguel Angoitia Grijalba (2025)	Revista Hacienda Pública Española
R187	Ulla K Griffiths, Jennifer Asman, Alex Adjagba, Marina Yo, James O Oguta, Chloe Cho (2020)	Health Policy and Planning
R201	Vogy Gautama Buanaputra, Shahzad Uddin (2024)	Public Administration
R206	Y N Raju, Chandan Kumar Mohanty, Asit Ranjan Mohanty (2025)	Asian Economics Letters
R213	Neni Anggraeni, Indarto, Aprih Santoso (2023)	Jurnal Aplikasi Bisnis dan Manajemen
R214	N.M.A. Verawati, M.G. Wirakusuma, I.A.D. Putri, I.D. Suputra (2018)	Russian Journal of Agricultural and Socio-Economic Sciences
R216	Stephen Korutaro Nkundabanyanga, Kelum Jayasinghe, Ernest Abaho, Kenneth Mugambe (2023)	Journal of Public Budgeting Accounting & Financial Management
R219	T. Lukhalo, E.M. Zwane (2022)	Suid-Afrikaanse tydskrif vir landbouvoorligting/South African journal of agricultural extension
R228	Fabio Fortunato Brasil de Carvalho, Mathias Roberto Loch, Letícia Aparecida Calderão Sposito, Douglas Roque Andrade, Leonardo Araújo Vieira (2024)	Ciência & Saúde Coletiva

ID	Author(s) and year	Journal title
R233	Maicon Goulart Morales, Jose Alexandre Magrini Pigatto (2023)	Revista Catarinense da Ciência Contábil

Article identifiers retain the original screening-register codes. Authors and publication years link the inventory to the reference list. All 53 retained reports are listed; journal titles may recur.

Table 2
Research designs in the assessed collection

Design family	Articles	Evidence generated
Administrative quantitative studies	20	Budget/outturn records, fiscal panels, programme or documentary financial comparisons
Perception surveys	12	Questionnaire measures of planning, competence, controls and perceived absorption
Qualitative case studies	11	Interviews, observations and documents about budget and reform processes
Mixed analyses	6	Qualitative and quantitative strands or documentary and statistical components
Predictive studies	2	Machine learning or forecasting with predictive evaluation
Budget-data scenario analysis	1	Initial/revised budgets linked to input-output multipliers
Programme experience study	1	Documented implementation experience across country programmes

4 Content analysis

4.1 Paradigmatic classification of reviewed studies

The question determines what evidence is needed. Financial records support budget–outturn comparisons; interviews explain institutional practices; surveys examine reported perceptions; and prediction and scenario studies assess forecasts or stipulated changes. Each purpose requires a different test of adequacy (Morales Rocha et al., 2020; Musiega et al., 2023; Prijaković, 2026; Shahini and Grabova, 2023; Wishnia and Goudge, 2021).

Philosophical reporting was too limited to support a meaningful distribution of paradigms. Amankwah-Poku and Preko (2022) explicitly state constructivist assumptions and use interviews and a focus group to examine reform experience. Elsewhere, OLS, structural equation modelling or a census cannot

establish a philosophical position. The review therefore emphasises reported designs and the claims they permit.

4.2 Rationale for choosing particular research methods

The comparison below examines question–method fit. Rationales are attributed to authors where documented; broader comments on suitability are the present appraisal. Financial panels compare budgets and outturns (De Widt and Sun, 2026; Prijaković, 2026), qualitative studies examine implementation (Adjagba et al., 2024; Wishnia and Goudge, 2021), and mixed designs connect financial patterns with institutional accounts (Musiega et al., 2023; Ogbuabor and Onwujekwe, 2019; Sofyani, 2018).

4.2.1 Administrative studies and financial measurement

Administrative studies are closest to a county-year design when accounting units, budget versions, periods and outturns are clear. They observe financial records, but some construct both explanatory and outcome variables from overlapping amounts. Herianti (2019) reuses actual and budget amounts; Ye (2023) examines ratios with potentially shared components. Such construction may partly explain a significant association.

The denominator changes the meaning of execution. Prijaković (2026) scales absolute deviation by planned expenditure. Montemayor Cejas and Esparza Masana (2026) distinguish planned, decided and spent programme budgets; Ogujiuba and Ehigiamusoe (2014) distinguish appropriations, releases and utilisation. Raju, Mohanty and Mohanty (2025) compare original and revised deficit estimates with actual outcomes. These measures inform version control but are not interchangeable county absorption ratios.

Repeated observations do not remove endogeneity: fiscal conditions can affect both revisions and spending, while implementation difficulties can prompt amendments. Fixed effects address specified stable differences and common shocks, not every changing cause. Nor do more projects create more independent programme units: Montemayor Cejas and Esparza Masana (2026) analyse 54 programmes despite a much larger project database (see also Bronić, Stanić and Prijaković, 2022; De Widt and Sun, 2026).

4.2.2 Surveys and construct validity

The twelve surveys examine planning, competence, controls, commitment or technology. Their instruments capture perceptions, not necessarily audited expenditure-to-allocation ratios. Reliability coefficients and factor loadings assess the instrument; they do not show that self-reported absorption reproduces treasury records (Ayem and Purwanto, 2024; Bandiyono and Mayangsari, 2021; Friyani and Hernando, 2019; Heniwati, 2023).

Response counts also matter. Verawati et al. (2018) analyse 112 usable returns from 116 invitations. Sun (2010) obtained responses from 17 of 58 counties. These distinctions affect coverage and non-

response bias. Purposive or quota recruitment of finance staff further limits organisational generalisation, especially where responses are clustered within units.

Analytical descriptions require checking against the results. Andriati (2019) labels its model inconsistently as multinomial and multiple linear regression and interprets an omnibus p value of .054 at a 10% threshold. Maisyarah (2026) discusses objective data in the methods, but the presented paths emphasise perceived credibility. Journal provenance cannot resolve these uncertainties.

Cross-sectional mediation and moderation describe fitted relationships without establishing their sequence. Planning, commitment and political influence may be causes, responses or shared perceptions. Temporal claims require dated amendments, releases, procurement steps and spending rather than an assumed ordering in a path diagram (Bandiyono and Mayangsari, 2021; Maisyarah, 2026; Sholihat, Basri and Nasrizal, 2025).

4.2.3 Qualitative evidence and institutional mechanisms

The eleven qualitative studies are most useful when case selection, access, coding and interpretation are explicit. Adjagba et al. (2024) use contrasting Kenyan counties and an agreed codebook but exclude North Eastern counties for security and logistical reasons. Wishnia and Goudge (2021) explain ethnographic access and report 30 interviews and meeting observations. These details clarify transferability.

Interviews and observations reveal processes hidden in annual totals: delayed releases, supplier responses, restricted facility autonomy, political negotiation and circumvention of digital controls. Their contribution is explanation. A recurring theme is not an effect size or a prevalence estimate for all counties (Adjagba et al., 2024; Azure, Alawattage and Lauwo, 2024; Buanaputra and Uddin, 2024; Musiega et al., 2023; Wishnia and Goudge, 2021).

Access shapes what can be observed. Network recruitment in Azure, Alawattage and Lauwo (2024) may favour insiders; Buanaputra and Uddin's (2024) kingship setting differs from ordinary county government; and only four of twenty invited councils participated in Coghill, Buchholz and Waheduzzaman (2026). Reflexivity and transparent selection therefore matter alongside interview numbers.

4.2.4 Mixed methods and integration

The six mixed analyses differ in integration. Musiega et al. (2023) combine 70 interviews, financial documents and four purposively selected Kenyan counties. Ogbuabor and Onwujekwe (2019) link financial trends with policymakers' accounts, while Sofyani (2018) uses qualitative follow-up to investigate unsupported survey hypotheses. These designs explain patterns without establishing national representativeness or causality.

Integration must show what comes from each source and how disagreement is handled. Astuti and Fadjarenie's (2024) interviews are less developed than their structural model. Morales and Pigatto (2023)

connect spending and carryover with perceptions, but convenience recruitment did not require budget expertise. Cecilia's (2025) seven annual periods place clear limits on documentary correlations.

4.2.5 Prediction scenarios and programme experience

Prediction is a different task from estimating a policy effect. Morales Rocha et al. (2020) split only 25 governors between training and testing. Yılmaz İnce, Kuyumcu and İnce (2026) use complex algorithms with 26 annual observations. Chronological holdouts help, but preprocessing, interpolation, tuning and stability remain important. Feature importance is not a causal effect.

Shahini and Grabova (2023) map initial and revised budgets into an input–output framework. The projected multipliers depend on sector mapping and fixed coefficients; they are not realised absorption. Mann et al. (2025) provide programme experience and capacity-building mechanisms. Implementer accounts and financing commitments generate hypotheses rather than independently attributed effects.

4.3 Linking research paradigm design approach and methods

A coherent study links its question, unit, sources, analysis and claims. Explicit constructivism informs the interpretive inquiry of Amankwah-Poku and Preko (2022); panels compare recorded outcomes (Bronić, Stanić and Prijaković, 2022; De Widt and Sun, 2026); and integrated designs explain institutional processes (Musiega et al., 2023; Ogbuabor and Onwujekwe, 2019). Unstated philosophy remains unclassified. This retains the methodological focus of Elasu et al. (2026) without inferring paradigms from data types.

5 Discussion

5.1 Methodological alignment across the evidence

The central issue is whether the question, unit, measure and claim align. A panel examines recorded outcomes, a survey examines reported constructs, a case study explains practices and a predictive exercise evaluates forecasts. Combining their conclusions without those distinctions overstates agreement. Different outcomes and identification strategies also make pooling inappropriate (Morales Rocha et al., 2020; Musiega et al., 2023; Prijaković, 2026; Wishnia and Goudge, 2021).

Publication provenance and methodological adequacy require separate judgements. An indexed journal with a review policy can publish an article with weak sampling, ambiguous measures or unsupported causal language. An unavailable report, meanwhile, has not been shown to be poor. These distinctions are essential to interpreting the selected evidence.

5.2 Implications for Kenya's county panel

County research should retain original appropriations, dated amendments, final allocations, releases, expenditure and pending commitments where available. Frequency, gross revision intensity and timing

need separate definitions. Net changes can conceal offsetting amendments, and a final revision date can hide earlier changes.

Absorption should be reported against both original and final allocations. If expenditure remains 60 while an allocation falls from 100 to 75, absorption rises from 60% to 80% without additional spending. A model using the revised denominator may capture this accounting relationship. Missing amendment documents must also be distinguished from zero revisions, and payments from commitments, arrears and project completion.

Release delays, procurement problems and changing needs can influence both revisions and spending. Qualitative evidence helps identify dated mechanisms and distinguish confounders from mediators. In a ten-year panel, fixed effects alone do not establish causality, some dependence-robust procedures are fragile, and national annual variables cannot be identified alongside a full set of year effects without further variation.

Kenyan health studies provide relevant institutional evidence but do not establish revision effects for all development spending across all 47 counties. International studies suggest measures and designs; they cannot replace validation of Kenyan fiscal records (Adjagba et al., 2024; Adjagba et al., 2025; Musiega et al., 2023).

5.3 Review limitations

The starting collection was purposively assembled, with capped searches and English-metadata, DOI and source restrictions. Eighty-one potentially eligible reports were unavailable. Related samples were not independently reconciled, and accessible evidence is concentrated in particular settings. Appraisal was AI-assisted, used review-specific labels and lacked an independent second reviewer. These limits prevent generalisation of the design frequencies or judgements to all budgeting research.

6 Concluding remarks

6.1 Conclusion

The review retained 53 assessable reports from 300 records. Their shared lesson is to align financial definitions, units, timing and claims. Records document spending, qualitative work explains implementation, surveys capture perceptions and integrated methods can connect them. For county research, verified amendment histories and explicit budget versions matter more than the number of estimators used.

The accompanying workbook records all screening decisions, article assessments and source checks. It provides a basis for independent verification, recovery of unavailable reports and transparent updates to the PRISMA counts.

6.2 Recommendations

Future studies should preserve dated amendments, original and revised appropriations, releases and actual expenditure, and report both absorption denominators. The distinct budget stages in Montemayor Cejas and Esparza Masana (2026) and estimate versions in Raju, Mohanty and Mohanty (2025) illustrate the value of this approach.

Where implementation needs explanation, combine the panel with a planned qualitative component and state how the evidence is integrated (Musiega et al., 2023; Ogbuabor and Onwujekwe, 2019; Sofyani, 2018). Test competing explanations and shared-component problems before making causal claims (Herianti, 2019; Ye, 2023). Independent appraisal and further retrieval should precede stronger conclusions (Page, McKenzie, et al., 2021; Page, Moher, et al., 2021).

Declarations

Data availability

The accompanying screening and appraisal workbook contains the record-level decisions and extracted methodological assessments. The underlying articles are identified in the references and should be consulted to verify the assessments.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this review, AI was used solely for language editing and manuscript formatting. The reviewer proofread the edited manuscript and takes full responsibility for the accuracy and integrity of the final text.

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Figures

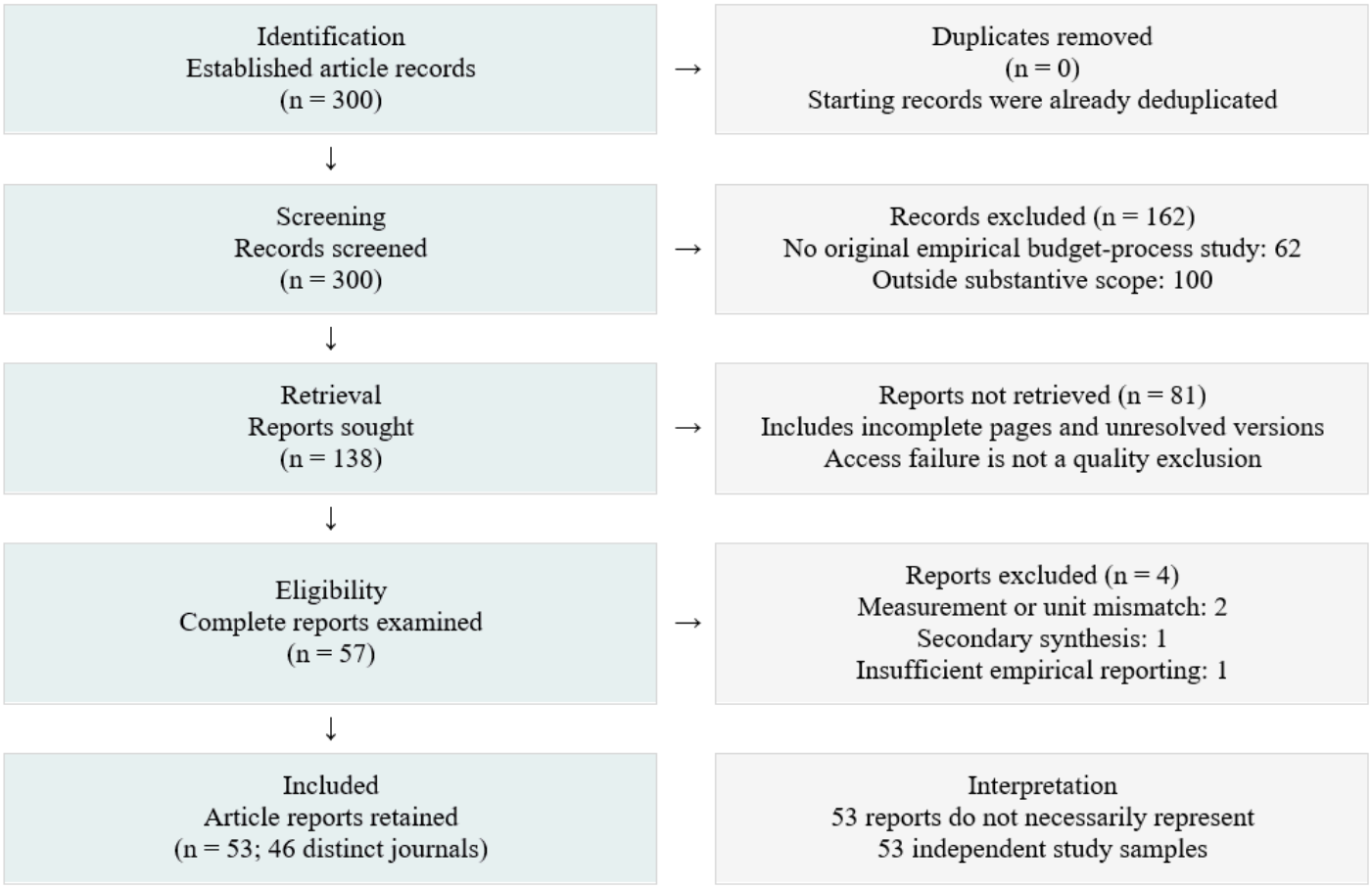


Figure 1

PRISMA flow of article selection

Source: screening and retrieval audit. Reporting follows PRISMA 2020 (Page, McKenzie, et al., 2021; Page, Moher, et al., 2021). The flow starts from the established 300-record collection.

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