

Open Data, E-Procurement, and Anti-Corruption in Public Administration: A Scoping Review of Evidence, Mechanisms, and Implementation Barriers

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Abstract: Public procurement is particularly exposed to corruption risks because it joins high-value public expenditure, complex rules, and repeated interactions between buyers and suppliers. Open-data and e-procurement initiatives are widely promoted as digital governance tools that can make contracting more visible, traceable, and contestable. This scoping review mapped recent evidence on how open data, electronic government procurement (e-GP), and open-contracting approaches are used to strengthen transparency, accountability, and corruption prevention in public administration. Guided by Arksey and O'Malley's framework, Levac and colleagues' refinements, JBI guidance, and PRISMA-ScR, the review applied a Population-Concept-Context lens. The population included public institutions and contracting stakeholders; the concept included open government data, e-procurement, open contracting, procurement analytics, integrity, transparency, accountability, and corruption prevention; and the context covered public-sector contracting across the procurement cycle. A targeted search of web-accessible peer-reviewed studies, evidence reviews, and authoritative policy publications from 2012 to June 2026 was undertaken. Twenty-nine substantive sources were charted. Five themes emerged: (1) end-to-end e-procurement reduces information asymmetry and discretionary contact, (2) open and standardized contracting data enables public and institutional scrutiny, (3) linked data and red-flag analytics support early risk detection rather than proof of wrongdoing, (4) outcomes depend on complementary legal, institutional, and enforcement arrangements, and (5) data-quality, capacity, political, accessibility, and privacy barriers can recreate opacity or exclusion. An emergent Data-to-Integrity Framework is proposed. The review concludes that open data and e-procurement are most effective when they operate as part of an accountable governance system that combines interoperable data, meaningful disclosure, active oversight, responsive remedies, and inclusive access for suppliers and the public.

Keywords: Open data, E-procurement, Open contracting, Transparency, Accountability, Anti-corruption, Scoping review

1. INTRODUCTION

Public procurement is one of the government functions most exposed to integrity risks because it involves large financial flows, technical specifications, fragmented supply chains, and close interactions between public officials and private suppliers. The risk does not arise only at the point of tender award. It can occur when needs are defined, specifications are drafted, bidders are screened, prices are negotiated, contracts are varied, and goods or works are accepted. Contemporary integrity guidance consequently treats procurement as a full-cycle governance challenge rather than a narrow purchasing activity (Organisation for Economic Co-operation and Development [OECD], 2026).

Digitalization has changed the information environment of public contracting. E-procurement or electronic government procurement (e-GP) uses digital systems to automate, standardize, and record procurement activities. Open-data initiatives make selected government information available for access, reuse, analysis, and public scrutiny. When combined across planning, tendering, award, contract, and implementation stages, these approaches are often described as open contracting. The central promise is straightforward: fewer hidden steps, more consistent records, lower information costs, and more opportunities for oversight by procurement authorities, auditors, suppliers, civil society organizations, journalists, and citizens.

Yet the relationship between digital disclosure and lower corruption is neither automatic nor linear. An online portal may publish information that is incomplete, late, difficult to search, unavailable in machine-readable form, or disconnected from records on company ownership, budgets, complaints, and implementation. A platform may automate tender submission while leaving planning, direct awards, contract amendments, and performance opaque. Conversely, a technically strong e-procurement system may generate extensive data but produce little accountability if oversight bodies cannot analyze it, suppliers cannot compete fairly, and findings do not lead to investigation or correction. Matheus and Janssen (2020) similarly caution that the mere opening of data does not necessarily create transparency; outcomes depend on data quality, access, user capability, participation, and institutional context.

The evidence base is also fragmented. Some studies examine transaction-level e-procurement outcomes such as delays, competition, quality, or administrative cost. Others examine disclosure portals, open data standards, audit tools, or corruption-risk

indicators. Policy reports increasingly emphasize data analytics, beneficial ownership, and integrated information systems, while implementation studies identify technological, organizational, legal, and environmental barriers. This fragmentation makes it difficult for public administrators to distinguish mechanisms that merely digitize procedures from those that support meaningful integrity and accountability.

A scoping review is appropriate because the field spans public administration, procurement, digital government, information systems, anti-corruption, and open-government practice. Rather than estimating a single pooled intervention effect, this review maps the range of approaches, clarifies the pathways through which they are expected to work, summarizes reported outcomes, and identifies implementation conditions and knowledge gaps. It asks: How are open-data and e-procurement initiatives used to promote transparency, accountability, and corruption prevention in public administration? The review also develops an evidence-informed framework that can guide digital procurement reform, integrity programming, and future research.

2. METHODS

2.1 Design and Review Process

This study used a scoping review design. The review was conceptually anchored in the framework of Arksey and O'Malley (2005), refined by Levac et al. (2010), and aligned with the JBI guidance for scoping reviews and the PRISMA extension for scoping reviews (Peters et al., 2020; Tricco et al., 2018). A scoping review was selected because evidence on open data, e-procurement, open contracting, procurement analytics, and anti-corruption is interdisciplinary, varies substantially in method and unit of analysis, and includes empirical studies, evidence reviews, institutional guidance, and implementation accounts.

The review used a Population-Concept-Context (PCC) approach. The population covered public institutions and relevant contracting stakeholders, including procurement authorities, suppliers, oversight agencies, auditors, civil society organizations, journalists, and data users. The concept included open government data, open contracting, e-procurement, e-GP, procurement transparency, accountability, integrity, corruption prevention, red flags, risk analytics, and digital oversight. The context covered public-sector procurement and public contracting, including the planning, tendering, award, contract management, and implementation stages.

A targeted search was conducted on 21 June 2026 using web-accessible scholarly and authoritative policy sources. Search locations included Google Scholar, publisher platforms, institutional repositories, the World Bank Open Knowledge Repository, OECD publications, Open Government Partnership materials, Open Contracting Partnership resources, and guidance from anti-corruption organizations. Search strings were combined and adapted, including “open data” AND anti-corruption, “open contracting” AND transparency, “e-procurement” AND corruption, “public procurement” AND accountability, “electronic government procurement” AND implementation barriers, “procurement data analytics” AND red flags, and “digital government” AND public integrity. Backward citation checking was used selectively to identify foundational studies and related evidence reviews.

Eligible sources included peer-reviewed empirical studies, systematic reviews, scoping reviews, systematic mappings, evidence syntheses, and authoritative policy or technical guidance that addressed public procurement, government data, transparency, accountability, corruption prevention, digital procurement systems, or implementation conditions. Sources were excluded when they focused solely on private-sector purchasing, did not address public administration or public contracting, were purely technical descriptions without governance implications, or discussed corruption without an open-data or e-procurement connection. English-language sources published from 2012 to June 2026 were prioritized, while earlier foundational methodological sources were included when necessary. Because the purpose was to map evidence and concepts rather than rate intervention effectiveness, no formal methodological quality appraisal was undertaken.

After relevance screening, thirty substantive sources were charted. Extraction focused on publication type, country or sector context when reported, intervention or governance approach, procurement stage, transparency or accountability mechanism, outcomes discussed, and implementation conditions. The evidence was analyzed through an inductive-deductive thematic synthesis. Initial coding focused on recurring constructs such as digital records, standardization, disclosure, audit trails, competition, data reuse, data integration, red flags, oversight, enforcement, capability, accessibility, and privacy. Codes were then organized into themes that explain how digital procurement reforms may contribute to transparency, accountability, and corruption prevention.

2.2 PCC Framework and Eligibility Criteria

Table 1. Population-Concept-Context framework and eligibility criteria

Element	Description
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Population	Public institutions and contracting stakeholders, including procurement authorities, suppliers, audit and oversight bodies, civil society organizations, journalists, researchers, and users of government contracting information.
Concept	Open government data, open contracting, e-procurement, e-GP, procurement transparency, accountability, public integrity, corruption prevention, data standards, procurement analytics, red flags, and digital oversight.
Context	Public-sector procurement and public contracting across planning, tendering, award, contract management, implementation, audit, and complaint or review processes.
Included sources	Peer-reviewed empirical studies; systematic, scoping, or mapping reviews; evidence syntheses; and authoritative policy or technical publications with direct relevance to transparency, accountability, integrity, or implementation.
Excluded sources	Private-sector procurement studies without public-administration relevance; technical papers without governance implications; sources focused only on general e-government; and corruption studies without an open-data or e-procurement connection.
Time coverage	2012 to June 2026, with older foundational methodological sources included when conceptually necessary.
Language	English.

2.3 Evidence Profile

Table 2. Evidence clusters and charting domains

Evidence cluster	Representative sources	Principal contribution	Charting focus
E-procurement and transaction integrity	Lewis-Faupel et al. (2016); OECD (2021, 2023, 2025)	Explains how digital procedures, automation, traceability, and lower transaction costs can affect market access, competition, timeliness, and integrity.	Procurement cycle coverage; disclosure; transaction records; supplier access
Open government data and open contracting	Matheus & Janssen (2020); OECD (2017); McDevitt (2022); OGP (2022)	Clarifies disclosure, usability, data standards, civic monitoring, and the gap between data publication and accountable use.	Data accessibility; interoperability; reuse; public participation
Risk analytics and corruption proxies	Fazekas et al. (2016); Fazekas & Kocsis (2020); Cocciolo et al. (2023)	Shows how standardized administrative records can support red flags, risk screening, performance monitoring, and targeted review.	Indicators; linked data; early warning; human follow-up
Implementation and governance conditions	Mohungoo et al. (2020); Khan et al. (2021); Transparency International (2014); OECD (2026)	Identifies legal, organizational, political, technical, capacity, privacy, and enforcement conditions that determine reform effectiveness.	Leadership; capability; legal mandate; enforcement; inclusion

3. RESULTS AND DISCUSSIONS

Theme 1: End-to-End E-Procurement Makes Procurement More Legible and Less Discretionary

Across the charted evidence, e-procurement was consistently presented as more than an electronic filing system. It is an institutional infrastructure that can standardize data capture, automate routine steps, record actions and timestamps, publish opportunities, and preserve an auditable history of decisions. Its core anti-corruption mechanism is the reduction of information asymmetry and discretionary opacity. When tender notices, specifications, bid submissions, awards, amendments, and implementation milestones are captured in a consistent digital environment, it becomes more difficult to selectively withhold information, alter documents without trace, or rely on informal and undocumented contact.

The evidence suggests that the benefits are strongest when digital systems are integrated across the procurement cycle. OECD guidance emphasizes that e-procurement should support integrated solutions that cover the cycle rather than isolated online tendering functions. In its analysis of Kazakhstan, the OECD noted that an e-procurement system can provide transparency for individual purchases while still limiting performance assessment when aggregated data are incomplete or insufficiently disclosed. This distinction is important: transaction visibility is necessary, but systemic accountability requires complete, comparable, and analyzable data across contracting authorities and time periods (OECD, 2023).

Empirical findings also indicate that e-procurement can affect market behavior and implementation outcomes. Lewis-Faupel et al. (2016) found that e-procurement in public works in India and Indonesia was associated with improved road quality in India, reduced completion delays in Indonesia, and greater likelihood that winning contractors came from outside the procuring region. These findings are consistent with the mechanism that digital access can broaden bidder participation and weaken local information advantages. They do not, however, prove that every platform reduces corruption or lowers prices. The effects depend on the rules governing the market, supplier capability, implementation quality, and the possibility of review when irregularities arise.

For public administrators, the practical implication is that a meaningful e-procurement reform should identify the procurement stages most exposed to discretion and ensure that the system captures decisions at those points. Tender-only platforms leave substantial integrity risks unaddressed when needs assessment, direct contracting, contract modifications, delivery verification, and payment remain weakly documented. End-to-end digital traces should therefore be treated as a foundation for auditability, not as evidence that accountability has already occurred.

Theme 2: Open and Standardized Contracting Data Converts Administrative Records Into Transparency and Accountability

A second theme was the distinction between data publication and usable transparency. Open data becomes valuable for accountability when information is timely, searchable, machine-readable, complete enough to answer a public question, and published in ways that allow users to connect records across systems. Matheus and Janssen (2020) describe transparency as a conditional outcome rather than an automatic result of openness. Their synthesis shows that public administration concerns such as participation and trust must be combined with information-systems concerns such as interface quality, user experience, and data quality.

Open contracting extends the logic of disclosure across the full public-contracting cycle. It involves publishing and using accessible information on planning, tendering, award, contract, and implementation so that citizens and businesses can identify and help solve problems. The Open Contracting Partnership evidence review found that the strongest evidence relates to competition, efficiency, and value-for-money outcomes, while evidence on direct corruption reduction, service delivery, and social inclusion remains more limited and context dependent (McDevitt, 2022). This is an important corrective to overly broad claims. Transparency can create opportunities for accountability, but it does not replace investigation, sanction, or remedial action.

Data standardization is central to this pathway. Common identifiers for buyers, suppliers, tenders, contracts, locations, budget lines, and implementation activities make it possible to trace a procurement process from planning to delivery and to link it with company, budget, sanction, and beneficial-ownership information where legally appropriate. Such links allow auditors and analysts to move beyond individual documents toward patterns of concentration, repeated awards, noncompetitive procurement, delay, cost escalation, and unusual contract modifications. The OECD (2017) similarly frames open data for anti-corruption as an ecosystem in which availability, accessibility, and support for reuse operate together.

Public accountability also requires intermediaries. Civil society organizations, investigative journalists, universities, business associations, procurement observatories, and audit institutions often translate raw data into understandable findings. They may identify missing disclosures, compare prices, track projects, submit complaints, or explain patterns to affected communities. A portal that publishes thousands of files without search tools, contextual metadata, visual summaries, help desks, or feedback channels can create only formal transparency. The evidence therefore supports a shift from “publish more” to “publish data that can be used, understood, verified, and acted upon.”

Theme 3: Linked Data and Red-Flag Analytics Support Earlier Risk Detection, Not Automatic Proof of Corruption

The third theme concerned the rise of procurement analytics. Digital procurement records can be converted into indicators that help oversight bodies identify transactions, organizations, or markets requiring closer scrutiny. Common examples include single bidding in ostensibly competitive markets, unusually short tender periods, recurrent awards to the same supplier, non-open procedures, late publication, extremely high or low bids, unusual contract modifications, and concentration of awards. These are commonly called red flags or corruption-risk indicators.

Fazekas, Tóth, and King (2016) demonstrated how publicly available electronic procurement records can be used to construct a corruption-risk index by connecting red flags with restricted competition and recurrent awards. Fazekas and Kocsis (2020) extended this work cross-nationally through measures based on single bidding and a composite tendering-risk score. Such methods are valuable because they make integrity risks observable at transaction, buyer, supplier, sector, and regional levels. They can help public agencies prioritize audits and investigations rather than treating every contract as equally risky.

Nevertheless, the literature stresses that risk signals are not legal findings. A single bidder may be expected in a specialized market; a shortened procedure may be permitted during an emergency; a contract amendment may be justified by changed conditions. The analytical task is therefore one of triage, explanation, and evidence gathering. Red flags should trigger human review supported by procurement expertise, legal standards, and independent oversight, not automatic accusations or sanctions. This safeguard is important both for due process and for maintaining the credibility of digital integrity systems.

The potential of analytics also depends on data completeness and interconnection. Cocciolo, Samaddar, and Fazekas (2023) note that e-GP systems create opportunities for monitoring procurement outcomes at scale, but these opportunities are realized only when authorities assess data quality, improve completeness, and build statistical and analytical capacity. Governments can strengthen this approach by linking procurement data with budget execution, supplier registration, tax compliance, debarment lists, complaints, project locations, and beneficial-ownership information while following data-protection and legal safeguards. The resulting system is not simply an open-data portal; it becomes a risk-informed public administration capability.

Theme 4: Transparency Produces Integrity Outcomes Only When It Is Coupled With Governance, Oversight, and Enforcement

A fourth theme was the role of complementary institutions. The anti-corruption effect of e-procurement is conditional on procurement law, implementation rules, administrative leadership, professional capacity, independent oversight, accessible complaint mechanisms, and the ability to investigate and correct irregularities. Transparency International (2014) observed that technology alone is unlikely to deliver transformational results; it must be supported by a clear legal framework, training for officials and businesses, public awareness, and strong oversight and law-enforcement bodies that can use the information generated by the system.

This point is reinforced by studies of digital government and corruption more broadly. Khan, Krishnan, and Dhir (2021) conclude that e-government can affect corruption through transparency, accountability, reduced discretion, and improved citizen access, but the pathways are shaped by institutional quality and the broader governance environment. Similarly, implementation research on public e-procurement identifies technological, organizational, and environmental challenges, including limited infrastructure, resistance to change, inadequate skills, fragmented processes, weak institutional coordination, and legal or policy uncertainty (Mohungoo et al., 2020).

The evidence therefore favors a governance approach in which digital procurement reform is embedded in a public-integrity system. At minimum, this system requires clearly assigned data stewardship, mandatory publication rules, data-quality controls, audit access, procedures for resolving complaints, protections for whistleblowers, documented consequences for violations, and periodic reporting on performance and integrity indicators. OECD (2026) further emphasizes that procurement integrity efforts must reach beyond public buyers to suppliers and supply chains, where bribery, bid rigging, conflicts of interest, and other risks may be hidden.

The implication is that a government should not evaluate reform success only by the number of tenders processed online or datasets published. More meaningful indicators include the completeness and timeliness of disclosure, the share of procurement covered across the cycle, competition levels, direct-award rates, contract modifications, complaint resolution time, audit follow-up, sanctions where warranted, delivery performance, and whether small or new suppliers can access the system. These measures connect digital activity with integrity performance and public value.

Theme 5: Implementation Barriers Can Recreate Opacity and Exclusion Unless Inclusion, Usability, and Safeguards Are Designed In

The final theme was that digital reform can reproduce existing inequalities and information asymmetries. Procurement portals may be difficult to use for small firms, rural suppliers, persons with limited connectivity, or civil society groups with limited technical capacity. Complex registration requirements, expensive digital certificates, short submission windows, inaccessible interfaces, and fragmented platforms can reduce participation even when a system is formally open. From an accountability perspective, raw datasets may advantage well-resourced firms or analysts while leaving ordinary citizens unable to understand the contracting decisions that affect them.

Data quality is a recurring barrier. Incomplete buyer or supplier information, missing identifiers, inconsistent classifications, unstructured documents, late uploads, and separate databases can prevent meaningful analysis. The OECD's review of Kazakhstan illustrates the problem: a platform can make individual procurement records visible while still lacking the aggregated, structured data needed for system-level performance assessment. Open Government Partnership reporting also shows that gaps between data collection, publication, machine readability, and usability remain common across anti-corruption policy areas (Open Government Partnership [OGP], 2022).

Political and organizational barriers are equally important. Disclosure may be resisted when it threatens established discretionary practices or reveals poor performance. Procurement staff may regard new systems as an additional compliance burden rather than a tool for better decision-making. Agencies may rely on proprietary vendors that limit interoperability, data portability, or independent audit. Cybersecurity, commercial confidentiality, privacy, and personal-data protection require careful balancing; openness should not expose sensitive personal or security information, but privacy should not be used as a blanket reason to withhold public-interest data.

Inclusive implementation requires practical support for users. Governments may provide supplier onboarding, simplified registration, accessible interfaces, mobile-compatible portals, help desks, local-language guidance, downloadable data, public dashboards, training for journalists and civil society, and formal channels for questions or complaints. Equity also requires monitoring who participates and who benefits. Participation rates by firm size, location, ownership characteristics where lawful, and procurement category can reveal whether digitalization is widening or narrowing access. In this sense, inclusion is not only a service-design issue; it is part of the integrity strategy because broader and fairer competition reduces opportunities for favoritism and capture.

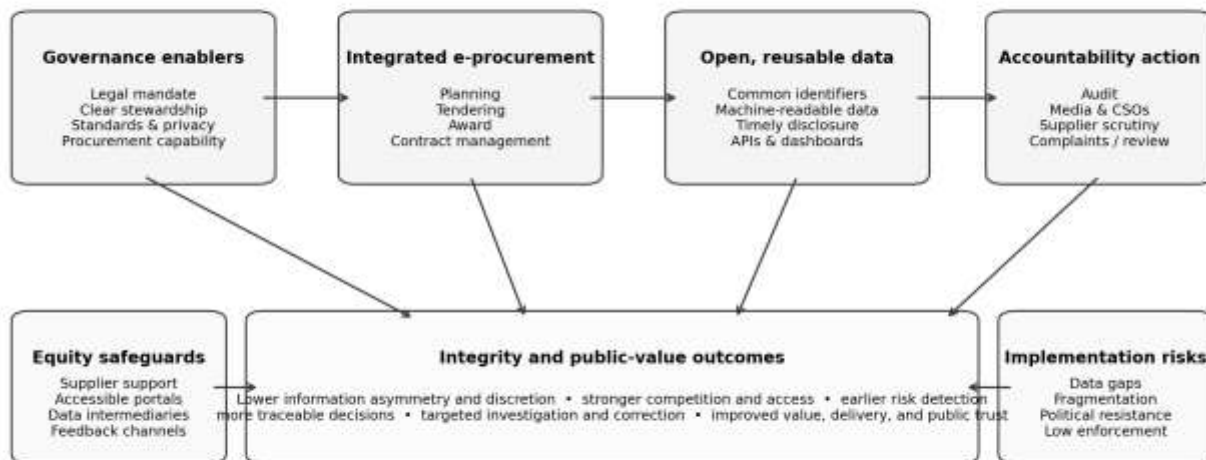
Emergent Framework

The synthesis suggests a Data-to-Integrity Framework for open data and e-procurement reform. The framework begins with governance enablers: a legal mandate for disclosure and digital transactions, clearly assigned institutional stewardship, data standards, privacy and security rules, professional procurement capacity, and resources for ongoing system maintenance. These enablers shape the quality and scope of integrated e-procurement functions that record planning, tendering, award, contract management, and implementation.

The next layer is open and reusable data. Procurement information must be timely, complete enough for the intended purpose, searchable, machine-readable, and based on common identifiers that allow records to be linked across systems. These features enable both institutional and public accountability. Auditors, anti-corruption agencies, procurement units, suppliers, civil society organizations, journalists, and citizens can use the information to assess competition, challenge irregularities, monitor delivery, and identify potential risks.

The framework identifies accountability activation as the decisive bridge between disclosure and outcomes. Data must lead to questions, analysis, complaint, audit, review, investigation, corrective action, or institutional learning. Risk analytics and red flags operate within this bridge by prioritizing cases for review, but they must be interpreted with legal and contextual judgment. When these mechanisms work together, expected outcomes include lower information asymmetry, reduced opportunities for undocumented discretion, broader competition, earlier detection of risk, more traceable decision-making, better contract performance, and increased public trust. Equity safeguards and implementation-risk controls operate across all layers so that data and digital systems do not exclude smaller suppliers, marginalized users, or less technically resourced watchdog groups.

This review has several limitations. First, it used a targeted search of web-accessible scholarly and authoritative policy sources rather than a full database export and duplicate-management protocol. Second, the review prioritized English-language sources and may therefore underrepresent evidence published in other languages or regional policy documents. Third, the purpose was to map approaches and mechanisms; no formal quality appraisal or meta-analysis was performed. Fourth, many sources report process outcomes, corruption-risk proxies, or qualitative implementation observations rather than directly observed corruption outcomes, which are inherently difficult to measure. The findings should therefore be interpreted as an evidence-informed conceptual map, not as a definitive ranking of technology interventions.



Open data and e-procurement reduce corruption risk only when disclosure is usable, oversight is activated, and institutions can act on findings.

Figure 1. Emergent Data-to-Integrity Framework for Open Data, E-Procurement, and Anti-Corruption in Public Administration

4. CONCLUSION

This scoping review shows that open-data and e-procurement initiatives can support transparency, accountability, and corruption prevention by making public contracting more visible, traceable, and analyzable. E-procurement contributes by standardizing procedures, reducing paper-based opacity, lowering information and participation costs, recording decisions, and enabling full-cycle data capture. Open data and open-contracting approaches contribute by making these records available for public reuse and by enabling oversight actors to connect information across tenders, suppliers, budgets, contracts, and implementation.

The evidence does not support a technological-determinist conclusion. Digitalization can improve competition, reduce delays, strengthen transaction traceability, and support risk screening, but its effects on corruption depend on the quality of data, the completeness of system coverage, legal and institutional arrangements, professional capacity, independent oversight, and credible remedies. Red-flag analytics is best understood as an early-warning and prioritization tool, not proof of misconduct. Likewise, disclosure creates a possibility for accountability but does not itself investigate, sanction, recover losses, or improve service delivery.

The most defensible public-administration approach is therefore a data-to-integrity model. Governments should design e-procurement as a full-cycle, interoperable system; publish standardized and usable contracting data; build the capacity of internal and external users; connect risk signals with audit and complaint processes; protect confidentiality and personal data; and monitor whether access to procurement markets and information is becoming more equitable. In this model, open data and e-procurement are not stand-alone transparency projects. They are infrastructures for accountable decision-making, public scrutiny, and corruption-risk management.

5. RECOMMENDATION

Public institutions may adopt end-to-end e-procurement strategies that cover planning, tendering, award, contract execution, amendments, payments, and implementation monitoring rather than focusing only on online bid submission. Reforms should include mandatory and timely publication rules, documented data ownership, standard classifications and identifiers, and mechanisms for routinely checking completeness, accuracy, and timeliness. Where feasible and lawful, procurement data should be interoperable with budget systems, company registries, debarment lists, complaint systems, and beneficial-ownership information so that risks can be assessed across the contracting ecosystem.

Governments may also establish an accountable analytics function that uses transparent red-flag indicators to prioritize audit and review. Such a function should have clear governance rules, documented assumptions, human expert review, due-process safeguards,

and protocols for escalating cases. Performance dashboards should report not only operational measures such as the number of tenders processed but also integrity and access indicators, including single-bid rates, noncompetitive procedures, direct awards, contract modifications, procurement cycle time, bidder participation, complaint resolution, data completeness, and audit follow-up.

To make transparency inclusive, agencies may provide supplier onboarding and assistance, accessible and mobile-compatible portals, reasonable submission periods, help desks, application-programming interfaces, downloadable datasets, plain-language dashboards, and training for journalists, civil society organizations, academic researchers, and small and medium enterprises. Accessibility should be monitored using disaggregated participation data where legally permitted. Privacy, cybersecurity, and commercial confidentiality should be addressed through risk-based rules that protect sensitive information without unnecessarily withholding high-value public-interest data.

Future research may use stronger comparative and longitudinal designs to examine whether open-data and e-procurement reforms lead to changes in corruption risks, competition, delivery quality, inclusion, trust, and public-service outcomes. There is also a need for context-sensitive research in low- and middle-income countries, local governments, sector-specific procurement such as health and infrastructure, and settings with uneven digital capacity. Studies should test the conditions under which data publication becomes actionable accountability and should examine the distributional effects of digitization on smaller suppliers, marginalized communities, and civil society users.

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