

INFORMATION SUPPORT FOR PUBLIC PROCUREMENT IN THE PROCESS OF IMPROVING DATA SYSTEMS

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Abstract. The effectiveness of public procurement is increasingly reliant on the quality and integration of information systems. This article explores the role of information support in enhancing transparency, efficiency, and decision-making throughout the procurement cycle. It investigates how modernizing data systems—through digital platforms, automated workflows, and real-time analytics—can reduce corruption risks, improve supplier engagement, and align procurement with strategic public goals. The study reviews current challenges in data fragmentation, interoperability, and regulatory compliance, proposing a framework for data-driven procurement transformation. By analyzing international best practices and case studies, the article demonstrates how robust information systems contribute to more accountable, responsive, and sustainable public procurement processes.

Keywords: information systems, responsive, public procurement, procurement processes, data systems, digital platforms.

1.Introduction

Public procurement is an important tool of economic policy and plays a key role in the development of entrepreneurship. It helps create conditions for the development of small and medium-sized businesses by providing access to government contracts and supporting innovation. In the context of globalization and the rapid development of digital technologies, many countries are adapting their procurement systems to improve competition, reduce corruption and ensure more efficient use of public funds. This process requires the introduction of modern approaches, such as electronic platforms, the creation of transparent and inclusive mechanisms, and the integration of social and environmental standards. This article examines foreign experience in developing entrepreneurship through the public procurement system, as well as the possibility of adapting these practices in Uzbekistan. Public procurement is a significant component of the economic system that affects the development of entrepreneurship through several key channels. First, it creates demand for goods and services, which stimulates

entrepreneurial activity and innovation. This is especially true for small and medium-sized enterprises (SMEs), which, due to their flexibility and ability to quickly adapt, can effectively meet the requirements of government customers. Secondly, transparent and competitive procurement processes ensure equal access for all participants, creating conditions for fair competition and reducing barriers for new players in the market. Thirdly, public procurement helps support local producers, providing them with a stable sales market. Fourthly, they can serve as a tool for promoting sustainable and environmentally friendly technologies if social and environmental criteria are integrated into the procurement process.

Information support for public procurement is a multi-level system of technical means and information resources that allow selecting suppliers in a competitive manner within the framework of current legislation, obtaining data on the execution or non-fulfillment of government contracts, and planning future purchases.

2.Literature review

The evolution from early e-tendering to “e-procurement 3.0/4.0” reframes information support from a document workflow to an integrated, analytics-ready data ecosystem. Reviews highlight success factors such as interoperability architectures, open interfaces, robust identifiers, and user-centric service design, alongside emerging AI tools for decision support. The OECD’s 2025 synthesis stresses integration across finance, audit, and service delivery; Mavidis (2022) maps the transition to “4.0” with predictive analytics and automation.

Common data standards are the backbone of this shift. The Open Contracting Data Standard (OCDS) defines a machine-readable model across the contracting lifecycle, enabling joining and reuse of notices, awards, contracts, and implementation data. Practical primers and guidance show how OCDS improves comparability, third-party reuse, and analytics, which in turn supports integrity and competition when embedded in institutional reforms.[6]

The EU’s eForms regulation adds a legislative standard for structured notice data, mandating a richer, harmonized schema (including sustainability fields) for TED publications from October 2023; early guidance notes both the potential and the implementation challenges for monitoring green and social procurement. Meanwhile, e-invoicing interoperability built around PEPPOL’s four-corner model has become a de facto integration layer in Europe and is referenced in recent Commission assessments; APEC economies are now converging on similar principles. Collectively, these initiatives extend information support beyond tendering into ordering, invoicing, and payment, linking procurement to PFM systems.[7]. Interoperability is repeatedly identified as a determinant of value for money because it broadens market access

and enables data-driven oversight. The European Commission's guidance frames interoperability across business, semantic, and technical layers and ties it to better data quality and competition effects. OECD's 2025 work similarly argues for interoperable, real-time data exchange between institutions in the procurement ecosystem.[8] Data governance has become a central research and policy theme. The OECD's "Going Digital" guide links procurement to cross-government data governance (balancing openness, privacy, security, and reuse) and even recommends leveraging procurement itself to embed good data-handling clauses in contracts. Country toolkits translate these principles into practice.[9] Methodologically, the field is moving toward "end-to-end" procurement data that link planning, tendering, awarding, contracting, delivery, invoicing, and payment. OECD's 2025 reports call for integration with PFM and audit systems; World Bank materials align this with modern procurement frameworks and project-level strategies (e.g., STEP, PPSD) that embed data capture and feedback cycles. This convergence suggests that "information support" is not a single system but a governed network of standards, registries (buyers, suppliers, items), transactional platforms, and analytics services.[10]

3. Analysis and results

A regional information system is created to facilitate the placement of orders and automate the routine process of forming, planning, monitoring and implementing budget expenditures by customers, as well as to consolidate procurement information to improve the efficiency of solving regional management problems. The structure of a regional information system, as a rule, includes a complete software package for interaction between founders (chief administrators of budgetary funds) and subordinate customer institutions.



Fig.1. The place of information support for regional systems in the general structure of information support for public procurement.

First of all, the platform should be part of an ecosystem where the functionality is divided between platforms and there are mechanisms for integrating other services and information systems. This feature should reflect the reality that is enshrined in the regulatory framework, and all integration mechanisms should be reflected and enshrined in the system using information about suppliers, contract data, rules for interacting with the system, etc.

Secondly, analysis and dynamic formation should be carried out, as well as:

- updating information on personal profiles of participants;
- updating the list of participants who violate the rules of conduct on the platform or interfere with the reputational assessment of participants.

In the context of state regional procurement, registered profiles of suppliers and consumers of services are protected, where there is advanced functionality. One of the key functional characteristics of the platform is the digital exchange of values and fully digital interactions between participants. The conclusion of all transactions, agreements and contracts, as well as tracking the completion of tasks and making payments, identifying various violations should imply as a result the exchange of values between participants as an exchange of money for goods or services. An integral part of the platform's operation is the primary arbitration of conflicts in industry interactions, as well as providing feedback between participants. The multi-stage feedback assessment system allows not only to satisfy the needs for the removal of posted information, but also to assess the functionality of the platform itself and the reputation of the platform participants. If the platform involves the implementation of payment services for economic activity, then the platform operators enter into an agreement or contract with the supplier to provide services to the platform participants through electronic wallets, payment systems and gateways, mobile operators, etc. The search for information in the platform must be structured, aggregated and meet the criteria for multi-parameter search in catalogs. The catalog of goods and services must be indexed [5]. In addition, various tools must be used to ensure communication between platform participants: messaging systems, video conferences, forums or voice communications. Omnichannel mailings and notifications about various events are popular tools in platforms. When procurement documentation is posted in a machine-readable format, it allows for deep contract analysis taking into account the requirements of the Law on the Contract System, as well as the preferences of suppliers and customers. Interim and

final reports on the performance or delivery of services are compared with the results of formally prescribed conditions, and discrepancies are identified with proposals for their correction in the working order without formal proceedings or requests. Personalized recommendations increase the value of the participant's presence in the platform if it implements universal tools for creating a recommendation system for forecasting activities and assisting the participant in choosing goods and services. Unfair behavior and verification of participants should be carried out using built-in triggers (indicators) of control and algorithms for submitting price offers, which will allow regulatory authorities to effectively identify violations in the work, analyzing only those procedures that are suspected of being carried out in bad faith [2]. The latest approaches to the consideration of information support for procurement processes in the process of developing the EAIST imply the constant development of methodological support based on state requirements for the pace and quality of economic development of the country, in the context of the development of the classical economic school, models of economic growth in modern development theories. When using information support, the fundamental principles of the contract system in the field of procurement are implemented, corruption risks are prevented.

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