Annals of Process Engineering and Management

www.apem.reapress.com

Ann. Proc. Eng. Manag. Vol. 3, No. 3 (2026) 136–142.

Paper Type: Original Article

Stakeholder Analysis of the Government Electronic Procurement System Based on the Power-Interest Matrix

Razieh Sadat Aboutalebi [1],* , Mohammad Aghdasi Bakhtiar Ostadi[1]

[1] Department of Industrial Engineering, Faculty of Industrial Engineering and Systems, Tarbiat Modares University, Tehran, Iran; Razieh.aboutalebi@modares.ac.ir, Aghdasim@modares.ac.ir.

Citation:

Received: 14 April 2025 *Revised: 24 May 2025* *Accepted:20 September 2026*	Sadat Aboutalebi, R., & Aghdasi, M., Ostadi, B. (2026). Stakeholder analysis of the government electronic procurement system based on the power-interest matrix. *Annals of process engineering and management*, *3*(3), 136-143.

Abstract

In recent years, government electronic procurement systems have been recognized as one of the most important tools for digital transformation in the public sector. However, the complexity of these systems' stakeholder structures has further emphasized the need for systematic stakeholder identification and analysis. This study aims to develop a strategic framework for identifying, classifying, and analyzing stakeholders in government electronic procurement systems using the Power–Interest Matrix, and to clarify the roles and impacts of each stakeholder group on the processes involved. To validate the proposed framework, the study used a qualitative approach based on semi-structured interviews with experts in government electronic procurement and comparative content analysis. The results indicate that interactions among stakeholders at different levels of decision-making, implementation, and supervision directly affect the efficiency, transparency, and control of process execution in this domain. The proposed framework, based on an analysis of Key Success Factors (KSF) and a power–interest analysis of the identified stakeholders, can serve as a strategic tool for designing, controlling, and improving electronic procurement processes in the public sector. It can also enhance multi-stakeholder interactions, promote transparency, and increase the effectiveness of public procurement.

Keywords: Business process management, Government electronic procurement, Government electronic procurement stakeholders, Power-interest matrix.

1 | Introduction

The government electronic procurement process encompasses a range of activities, from identifying requirements to contract award and the delivery of goods or services, and improvements in this process can directly affect the efficiency of the administrative system and a country's financial integrity. Managing these processes involves regulations, guidelines, and procedures established by government and other governing institutions to promote transparency, fair competition, and efficient use of public resources. Because of their interorganizational nature and interactions with multiple stakeholders, electronic procurement systems face

Corresponding Author:

Licensee System Analytics. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0).

complex challenges. Potential conflicts of interest between the public and private sectors, along with the diverse expectations and roles of stakeholders such as executive agencies, suppliers, regulators, and the general public, have made systematic identification and management of these stakeholders increasingly essential. Maintaining the integrity of procurement processes and preventing threats such as financial corruption require a comprehensive framework for analyzing the relationships and interests of all actors involved in this domain [1].

Although the public procurement literature has emphasized the importance of stakeholder analysis, previous studies have largely addressed this issue in a fragmented manner and lack an integrated model for categorizing and analyzing stakeholder impacts in this domain. Various studies have also emphasized the importance of stakeholder and risk management in public and infrastructure projects [2]. These studies show that systematically identifying stakeholders and understanding their interactions are essential prerequisites for effective governance and project risk control. However, these studies have primarily focused on physical and construction projects, while a similar gap exists in digital governance systems, such as government electronic procurement. Many researchers have merely identified entities as "stakeholders" without systematically defining their roles and competing interests. This knowledge gap has created challenges for the effective planning and implementation of electronic procurement systems.

To address this gap, this study proposes an integrated framework for identifying and analyzing stakeholders in government electronic procurement, centered on the Power-Interest Matrix. The proposed framework not only categorizes stakeholders and clarifies their roles but also enables the analysis of the impact of Key Success Factors (KSF) on each stakeholder group, as well as a strategic analysis of the power-interest relationships among them.

2 | Research Methodology

This study adopts a qualitative, exploratory approach and aims to identify and analyze stakeholders in the government electronic procurement system. First, a systematic literature review covered the period from 2000 to 2025. Relevant sources were identified and, after screening, approximately 50 sources were selected for qualitative content analysis. This stage produced a preliminary list of stakeholders and criteria for assessing their power and interest. Subsequently, to complement and validate the findings, we conducted semi-structured interviews with 15 relevant experts and analyzed the collected data using qualitative coding. Finally, the stakeholder classification framework and the Power-Interest Matrix were developed based on expert consensus. These findings formed the basis for developing the stakeholder analysis framework.

3 | E-Procurement Stakeholders

To make decisions that lead to a credible, rational, and reliable public procurement system, governments and policymakers should identify what their public procurement system serves and for whom, and take stakeholders' interests into account in their decision-making processes. Stakeholder analysis in public procurement remains underdeveloped. Many authors use the term "stakeholder" in their studies of public procurement; however, only a limited number of sources identify and define these stakeholders and their interests. Even when researchers have emphasized the importance of recognizing and understanding stakeholders' interests in public procurement, they have generally not focused on defining and describing those interests. Therefore, as an innovative contribution, this section examines stakeholders in government electronic procurement and, following a review of the relevant literature, proposes a layered classification of government electronic procurement stakeholders.

4 | Introduction to the Research Framework

The framework proposed in this study, focused on stakeholder power-interest analysis, significantly affects organizational processes and the value chain involving all stakeholders. The requirements, expectations, and perspectives of stakeholders, particularly external stakeholders such as higher-level authorities, system

contractors and suppliers, and users of government electronic procurement services (including buyers and suppliers), are of considerable importance in the planning and design of processes. To support a comprehensive, operational analysis, this study integrates two complementary tools: Key Success Factor Analysis and Stakeholder Power-Interest Analysis. This integration is based on the principle that identifying levers of influence KSF without an appropriate management strategy for each stakeholder (the Power–Interest Matrix) would be incomplete, and vice versa. Therefore, by simultaneously addressing two key questions: "What should we focus on?" and How should we engage with each stakeholder? The proposed framework provides more comprehensive guidance for managers and policymakers.

Based on semi-structured interviews with experts in electronic procurement and a systematic review of relevant sources, including Schooner et al. [1], this study proposes the primary stakeholder layers in this domain, as presented in *Table 1*. According to ISO 20400 [3] (Sustainable Procurement-Guidance), stakeholders are categorized into two groups: owners and contractors. In this study, system owners refer to governmental entities or organizations responsible for the overall management of the government electronic procurement system. When necessary, these entities engage contractors to design, implement, develop, and maintain the system. Traders refer to users within executive agencies and organizations, as well as individuals who use the system on behalf of the public sector. Private-sector users include bidders, auction participants, and suppliers who use the system. Other external stakeholders include regulatory and oversight organizations responsible for monitoring system performance and compliance with applicable laws and regulations, as well as private-sector entities and members of the general public who do not interact directly with the system but may nevertheless be affected by it.

Table 1. Layering of stakeholders in government electronic procurement.

Stakeholders	Layer 1	Layer 2
Internal	System Owners	Governmental entities that own the system
		Technical support contractors
	Traders	Users of executive agencies
		Private-sector users (bidders, auction participants, suppliers)
External	Other Beneficiaries	Regulatory and oversight organizations
		Private sector
		General public

5 | Impact of Key Success Factors on Government Electronic Procurement Stakeholders

Following the identification and layering of stakeholders presented in *Table 1*, this section analyzes the impact of KSF on each stakeholder group. As noted in the study "The Impact of Key Success Factors on the Operational Processes of Government Electronic Procurement" [3], identifying and prioritizing KSF constitutes the first step toward improving the electronic procurement system. However, these factors do not affect all actors in this domain equally. *Table 2* systematically presents the relationships between KSF and the different stakeholder groups of the government electronic procurement system. The results from the semi-structured interviews with experts, as presented in *Table 2*, clearly show that understanding these differences is critical to effective system management. Within this framework, the level of impact of each key success factor on the main stakeholder groups, including system owners, executive-agency users, private-sector users, regulatory organizations, and the general public, is classified as High (H), Medium (M), or Low (L).

Table 2. Impact of key success factors on government electronic procurement stakeholders.

Key Success Factors		Key Stakeholders				
		System Owners	Executive-Agency Users	Private-Sector Users	Regulatory Organizations	General Public
Project Strategy	Level of adoption and degree of penetration of electronic procurement services among key stakeholders (government agencies, suppliers, and contractors)	H	H	H	M	L
	Financial resource management, with a focus on budget adequacy for infrastructure development and support resources	H	H	H	M	L
	Senior management commitment and support within the institution responsible for government electronic procurement	H	M	M	L	L
	Development and implementation of effective strategies for government electronic procurement	H	M	M	M	L
Structure	Efficient organizational structure with clear and formal responsibilities and authorities	H	L	L	L	L
Information Systems	Appropriate frameworks and infrastructure for information and system security	H	M	M	M	L
	Implementation of managerial and technical standards to improve systems and strengthen interoperability	H	M	M	L	L
	Data management with a focus on interoperability, integrity, security, and information quality	H	H	H	M	L
People	Recruitment and development of highly skilled human resources and enhancement of their capabilities	H	M	M	L	L
	Developing a mindset conducive to the use of government electronic procurement services through training and promotion	M	H	H	L	L
	Implementation of a stakeholder relationship management system for key stakeholders	H	H	H	M	L
Management Processes	Establishment of change management processes to identify and mitigate barriers and risks	H	M	M	L	L
	Business process reengineering using a risk-aware approach	H	M	M	L	L
	Development of a project management structure and resource requirements planning to provide efficient services	H	M	M	L	L
	Implementation of performance measurement systems and alignment with key objectives	H	M	M	L	L

Table 2 shows how a key success factor can affect different stakeholder groups differently. For example, the training and promotion key success factor, identified based on expert opinions, has the greatest impact on executive-agency users and private-sector users (H), while its impact on system owners is assessed as medium (M). Such an analysis, grounded in qualitative field data, enables managers and policymakers to develop more targeted and effective strategies for each stakeholder group, rather than adopting a one-size-fits-all approach, and to allocate limited resources to areas where they can generate the greatest returns in enhancing the satisfaction and participation of key stakeholders.

The level of analysis in *Table 2* has shifted from the detailed layering in *Table 1* to a more operational, aggregated classification to focus on impact analysis. At this stage, technical support contractors have been integrated into the system owners' group because they depend entirely on system owners and share their objectives. Similarly, the "other beneficiaries" group has been disaggregated into its main components: regulatory organizations, the private sector, and the general public. This adjustment in detail level was made to enhance clarity and provide a more practical analysis for managers and policymakers. Accordingly, the impact of the factors is analyzed with respect to the stakeholders that play the most significant roles in the system's operational and strategic success or failure.

6 | Stakeholder Analysis Based on the Power-Interest Matrix

As another approach adopted in this study, a two-dimensional Power-Interest Matrix was used to determine the appropriate engagement strategy for each stakeholder group. As a strategic tool, the Power-Interest Matrix clarifies stakeholder interactions and prioritizes managerial actions. This tool classifies stakeholders based on

two dimensions: power and level of interest Slabá & Fiala, [4]. The power dimension reflects the extent to which a stakeholder can influence decisions and resource allocation, while the interest dimension indicates the degree of concern and dependence on the system's outcomes and processes. This approach aligns with the stakeholder mapping model proposed by Preko & Boateng [5], which categorizes stakeholders by their relative power and interest in influencing system outcomes.

Table 3 presents stakeholders' influence levels in government electronic procurement. Regarding the power dimension, factors such as decision-making authority, access to financial resources, policymaking role, and media influence are considered relevant. For the interest dimension, factors such as direct involvement with the system, dependence on its outputs, and sensitivity to risks are influential. The data in this table were derived from semi-structured interviews with experts in government electronic procurement and qualitative content analysis of the interviews.

Table 3. Level of stakeholder influence in government electronic procurement.

Stakeholder Group	Primary Role and Responsibility in the System	Level of Influence (Power/Interest)
System Owners	Policymaking, development of technical infrastructure, system support, and system enhancement	High Power / High Interest
Executive-Agency Users	Conducting government transactions through the system	Medium Power / High Interest
Private-Sector Users	Participating in competitive procurement and sales processes, submitting bids, and directly interacting with the system	Low Power / High Interest
Regulatory Organizations	Monitoring violations, assessing financial and process integrity, enforcing legal controls, and reporting	High Power / Medium Interest
General Public	Beneficiaries of transparency, open access to information, and government electronic services; exercising an informal oversight role through public feedback	Low Power / Low Interest

Table 4. Stakeholder power-interest matrix.

Power Level / Interest Level	High Interest	Low Interest
High Power	Key Players (System owners; involved in decision-making and policymaking)	Context Setters (Regulatory organizations; oversight and control)
Low Power	Operational Actors (Executive-agency users and private-sector users; involved in implementation and continuous interaction with the system)	General Public (General population; lowest level of participation and influence)

Table 4 illustrates the position of stakeholder groups in the government electronic procurement system based on the two dimensions of power and interest. The four quadrants of the matrix are classified as follows:

I. Key Players: Groups with high power and high interest that should be directly involved in decision-making and policymaking (system owners).

II. Context Setters: Groups with high power but low interest that need to be kept satisfied through transparent communication and periodic reporting (regulatory organizations).

III. Subjects: Groups with moderate to low power and high interest that should be engaged in the system through process-oriented training and continuous support (private-sector users and executive-agency users).

IV. Crowd: Groups with low power and low interest that require monitoring and assurance of equitable access to information (general public).

This matrix shows that power is primarily concentrated in system owners and regulatory organizations, while executive users and private-sector users have the highest levels of interaction with and practical experience of the system. This structure is susceptible to conflicts of interest and information asymmetry, which should be considered when designing a risk-aware process management framework. The Power-Interest Analysis *Tables 3* and *4* complements the analysis of KSF ' impact *Table 2*. While *Table 2* identifies which factors affect each

stakeholder, the Power-Interest Analysis indicates how and with what priority to engage each stakeholder group.

Accordingly, integrating these two analyses (stakeholder susceptibility to KSF and stakeholder power–interest positioning) provides a two-dimensional perspective: first, identifying the levers of influence KSF for each stakeholder; and second, determining the appropriate engagement strategy based on the Power–Interest Matrix. This integrated framework provides a comprehensive, operational perspective for effectively managing stakeholders in the government electronic procurement system.

7 | Conclusion

The stakeholder analysis of the government electronic procurement system shows that, because of the diversity of roles, this domain has a multilevel, interorganizational structure. The findings indicate that decision-making power is concentrated primarily among system owners and regulatory organizations, whereas the highest level of operational involvement is associated with organizational users and suppliers. The results also show that the effectiveness of KSF varies across different stakeholder groups, indicating that adopting a uniform approach to stakeholder management would not be effective. Conflicts of interest among policymakers, implementers, and participants are also a key finding of this study [7].

The proposed framework's success requires balancing decision-making power, level of interest, and degree of information transparency across stakeholder groups. In this context, system owners and regulatory organizations play the primary roles in directing decisions, whereas executive users and the private sector are affected by the consequences of these decisions. Integrating Key Success Factor Analysis and the Power-Interest Matrix provides a strategic tool for focusing managerial actions, managing conflicts of interest, and mitigating stakeholder-related risks. The findings of this study can inform the design and reconfiguration of government electronic procurement processes. They can help improve multi-stakeholder interactions, enhance transparency, and increase the effectiveness of public procurement. Furthermore, the proposed framework provides a foundation for the next stage of the research: identifying and analysing stakeholder-related risks [8].

Consistent with evidence from previous studies on risk management in construction projects [6], [2], accurate stakeholder classification represents the first and most critical step in risk management. Moreover, this study's findings provide a foundation for future research using quantitative methods, including Structural Equation Modeling (SEM), to empirically assess the causal relationships among stakeholders, risks, and success indicators [7].

References

[1] Schooner, S. L., Gordon, D. I., & Clark, J. L. (2008). Public procurement systems: unpacking stakeholder aspirations and expectations. https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Schooner%2C+S.+L.%2C+Gordon%2C+D.+I.%2C+%26+Wherry%2C+J.+L.+%282008%29.+Public+procurement+systems%3A+unpacking+stak

[2] Tian, Z., Wang, T., Jiang, K., He, Q., Xue, Y., & Chen, X. (2026). How do public owners' dynamic capabilities improve project resilience in megaprojects: A configurational perspective. *Engineering, construction and architectural management*, *33*(5), 3799–3819. https://doi.org/10.1108/ECAM-08-2024-1028

[3] Luthfi, A., & Janssen, M. (2021). *A stakeholders taxonomy for opening government data decision-making*. International symposium on business modeling and software design (pp. 384–391). https://doi.org/10.1007/978-3-030-79976-2_26%0A%0A

[4] Aboutalebi, R. S., Aghdasi, M., & Ostadi, B. (1403). *The impact of key success factors on the operational processes of government electronic procurement*. The second conference on engineering and management of organizational processes. https://civilica.com/doc/2183904

[5] Slabá, M., & Fiala, R. (2014). Application of power-interest matrix and influence-attitude matrix in stakeholder mapping of universities. https://is.vstecb.cz/publication/36061/cs

[6] Preko, M., & Boateng, S. L. (2024). Exploring stakeholder interests in the health sector: a pre and post-digitalisation analysis from a developing country context. *International journal of healthcare technology and management*, *21*(2), 143–167. https://doi.org/10.1504/IJHTM.2024.140385

[7] Dutta, A., & Das, S. (2020). Adoption of grid-connected solar rooftop systems in the state of Jammu and Kashmir: A stakeholder analysis. *Energy policy*, *140*, 111382. https://doi.org/10.1016/j.enpol.2020.111382

[8] Horoki, A. Z., Abolhasani, M. S., Khah, E. S., Heydaripour, M., & Zarezadeh, M. (2024). Identifying barriers to the adoption of electronic prescribing: A stakeholder analysis approach using a power-interest matrix. *Evidence based health policy, management and economics*, *8*(3). https://doi.org/10.18502/jebhpme.v8i3.18076

[9] Sharma, V., Mohan, A. K., & Kumar, N. (2026, April). Whose data builds the city? Critical data practices for socio-environmentally just urbanization. In *Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems* (pp. 1-20).

[10] Gupta, P., Zhang, F., Chauhan, S., Goyal, S., Bhardwaj, A. K., & Gajpal, Y. (2024). Understanding small and medium enterprises' behavioral intention to adopt social commerce: A perceived value perspective. *Journal of enterprise information management*, *37*(3), 959–992. https://doi.org/10.1108/JEIM-09-2022-0356