Dominant Factors Affecting the Efficiency of Construction Service Provider Selection Through E-Catalogue

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ABSTRACT

Procurement of Government Goods/Services (PBJP) through E-Purchasing in Electronic Catalogs has become a strategic function to achieve efficiency, which is driven by the latest regulations. The use of E-Catalogs in Indonesia shows a significant increasing trend, especially in the Construction Services sector. There is still a gap between the expectation of optimal efficiency and the reality of implementation in the field due to technical complexity and integrity issues. This study aims to identify the most dominant factors influencing the efficiency of choosing Construction E-Catalog providers. The three main problem formulations are: (1) Identifying factors that affect the efficiency of the e-purchasing construction service provider selection process in the E-Catalog; (2) Determining the most dominant factors that affect the efficiency of supplier selection. This study adopts a Mixed Methods Sequential Exploratory approach, starting with a qualitative phase (expert interviews) for factor exploration, followed by a quantitative phase (a survey of 98 national stakeholder respondents) for perception measurement and dominance analysis. Quantitative analysis uses classical assumption tests and multiple linear regression analysis. This research makes a significant contribution by (1) specifically analyzing efficiency in the Construction Services sector in the context of the E-Catalog Version 6 system; and (2) conducting a comprehensive identification and ranking of dominant factors from a multi-stakeholder perspective (PPK, Procurement Officer, Auditor). Simultaneously, the seven independent factors (Technology, Organization, Environment, Policy/Regulation, User/HR, Provider, and External/Context) have a significant effect on Provider Selection Efficiency (F Sig.=0.000 Test). Partial tests found the presence of Functional Multicollinearity. Standardized Beta Coefficient analysis showed that Environmental Factors (Competitive Market and Market Clarity) were the most dominant factors (Beta=0.273). There was a critical anomaly in the Organizational Factor, which was perceived to be very good (Mean=4.0986) but had the weakest and negative influence (Beta=-0.028). Increasing the efficiency of Construction E-Catalog is a systemic phenomenon, where transformational success relies heavily on strengthening the quality and competitiveness of the provider market (Environmental Factors) that are the input of the platform, exceeding the internal factors of the organization. Strategic recommendations must be focused on strengthening market inputs and harmonizing APBD/APBN regulations.

Keywords: E-Catalog, construction services, efficiency, multiple regression, dominant factors.

INTRODUCTION

Government Procurement of Goods/Services (PBJP) is a strategic function in governance that affects the quality of public services and the acceleration of development. The complexity of the process and the large amount of funds managed make the sector vulnerable to inefficiencies and integrity issues [1]. To overcome these challenges, the adoption of electronic systems (e-procurement), in particular the E-Purchasing on the Electronic Catalog, has become a national priority, driven by the latest legal frameworks such as Presidential Regulation Number 16 of 2018 and its amendments [2]. E-Catalog is prioritized because it promises a simpler, faster, and more efficient procurement process, as well as increasing transparency and accountability [3]. These efficiencies are defined holistically, including process speed, cost savings, and ease of interaction with the system [4].

Use of E-Purchasing in Indonesia showed a significant upward trend, jumping from 16.4% in 2022 to 61.7% in May 2025 [5] from the total realization of providers. The Construction Services sector,

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characterized by technical complexity, high risk management, and in-depth specification needs, is also adopting E-Catalog [6]. The regulatory framework and E-Catalog system in Indonesia are dynamic, continuously updated, such as the implementation of the Latest Version of the E-Catalog (Version 6) at the end of 2024 and the latest changes in PBJP regulations, including Presidential Regulation Number 46 of 2025, which is the context of this research.

Implementation in the construction sector still faces a gap between expectations of optimal efficiency and realities on the ground. There are obstacles, such as difficulty finding providers according to technical specifications or verification processes, that reduce speed. In addition, LKPP [7]; [8] and the KPK highlighted the existence of "loopholes in corrupt practices" and that electronic systems "can be outsmarted", indicating the existence of integrity issues that affect efficiency [9]; [1]. LKPP empirical data in 2023 also shows data quality problems (price unfairness, product non-conformity/TKDN) that hinder user efficiency [10].

Previous research tends to focus on aspects of integrity, adoption of UTAUT-based technology [11]; [12], or done in the context of an older version of the system. The literature is still limited in comprehensively identifying and ranking the dominant factors—especially from a multi-stakeholder perspective—that affect the efficiency of the E-Catalog provider selection process. This study aims to identify the factors that affect the efficiency of the construction service provider selection process, E-Purchasing on the E-Catalog, and analyze the most dominant factors in influencing the efficiency of provider selection.

The method used is a mixed approach (Mixed Methods) with a sequential exploratory strategy (Sequential Exploratory Strategy). The initial (qualitative) stage involves interviewing experts for factor exploration. The next stage (quantitative) is a survey of national stakeholders to measure perceptions and determine the dominance of factors using multiple linear regression analysis.

The novelty of this research lies in a comprehensive analysis that: (1) specifically focuses on efficiency in the Construction Services sector, whose complexity is different from the procurement of standard goods; (2) it is carried out in the context of the Latest Version (V6) E-Catalog system and (3) identifies and ranks the dominant factors of efficiency from a multi-stakeholder perspective (procurement actors and auditors) in one analytical framework.

The conclusion obtained is that simultaneously, the seven independent factors (Technology, Organization, Environment, Policy/Regulation, User/HR, Provider, and External/Context) have a significant effect on Provider Selection Efficiency (F Sig.=0.000 Test). However, although the Organizational factor is perceived to be the most superior, the analysis of the Standardized Beta coefficient shows that Environmental Factors (Competitive Market and Market Clarity) are the most dominant factors (Beta=0.273) that affect efficiency, concluding that the improvement in the efficiency of the Construction E-Catalog is highly dependent on the strengthening of the provider's market quality.

RESEARCH METHODS

Research Flowchart

This study adopts a mixed approach (Mixed Methods) with a Sequential Exploratory Strategy. This approach was chosen to gain a holistic and in-depth understanding. This strategy has two main phases:

a. Qualitative Phase (Exploration): Aims to explore and validate 7 free factors (Technology [13], [14], [15]Organization [16], [17], [18]Environment [15], [17] , Policies & Regulations [14], [17], Users & HR [13], [16], [19], Provider [20] , and External & Context [14]) and indicators, as well as factor-bound factors that affect the efficiency of the selection of construction service providers through the E-catalog (process efficiency [21], Cost efficiency [22], Time efficiency [23], [24], efficiency outcome [25], [26], [27], [28]) from the perspective of experts and practitioners, and build a solid conceptual framework.
b. Quantitative Phase (Measurement): Aims to measure the perception of procurement actors and auditors towards the factors that have been identified and determine the level of dominance.

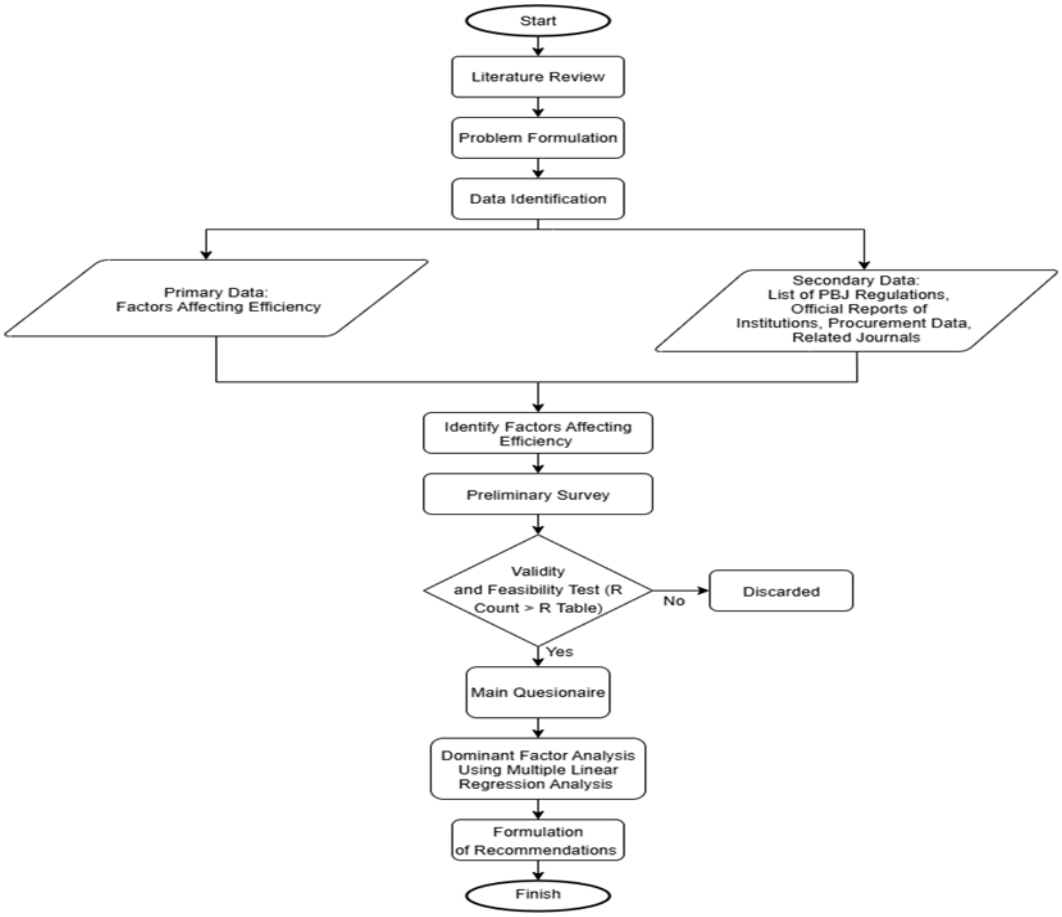

Figure 1. Research Flow

Flowchart Explanation (Novelty and Strategy)

The flow chart above clearly illustrates the Exploratory Sequential Strategy, which is the novelty of the research. The steps are:

1. Initial Exploration: Begin with a Literature Review and Preliminary Survey to identify the initial factors
2. Qualitative Phase (Exploration): Through Expert Interviews that result in the validation of new factors (e.g. Interconnection of Supporting Databases, Integrity, Implementation Mentality) that are specific to the latest constructions and regulations.
3. Instrument Development: Qualitative results are the basis for the Questionnaire Design, ensuring that the measurement tool is relevant to the context of E-catalog Version 6 and Presidential Regulation 46/2025.
4. Quantitative Validation: Conduct a Validity and Reliability Test of the instrument before collecting the main data.
5. Novelty Ranking: At the heart of the study is the Multiple Linear Regression Analysis, which statistically ranks which factors are most dominant in influencing provider selection efficiency.
6. Strategy Formulation: The results of the ranking of the dominant factors are the basis for Strategy Formulation using the brainstorming method to produce measurable recommendations.

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1. Research Location and Time

The research will be carried out in several relevant locations to collect primary data from key stakeholders, including government agencies (Ministries/Institutions/Regional Apparatus) spread throughout Indonesia that have a volume of construction service procurement through the E-catalog. The estimated implementation period is for 6 (six) months, starting from July 2025 to December 2025.

2. Population and Research Sample

Sample determination is carried out separately for each phase:

- Qualitative Phase: Using the Purposive Sampling technique. The number of experts/respondents ranged from 4 to 9 people, and data collection was stopped when data saturation was achieved (when no significant new information was found). The criteria for the expert sample include: having extensive knowledge and experience in the field of Procurement of Goods/Services (PBJ), being active as a resource person/practitioner, and having advanced PBJ certification.
- Quantitative Phase: The research population is all members of the National Procurement Expert Discussion Forum Community, totaling 428 people. The criteria for the respondent sample are State Civil Apparatus (ASN) who serve as procurement actors (Procurement Officials, PPK, or Election Working Group) or as auditors, and have a minimum level 1 PBJ LKPP certification. The minimum sample size was calculated using the Slovin formula with an error rate of 10%, resulting in a minimum sample estimate of 82 respondents.

3. Data Collection and Procedures

The collection of research data is carried out through two main types of data:

- Primary Dates:
  a. Qualitative (Interview): Conducted in a semi-structured manner to key experts/respondents to identify and validate efficiency factors.
  b. Quantitative (Main Questionnaire Survey): Using the Likert scale. Before deployment, a pilot test was carried out to test the validity (r count > r table) and reliability (Cronbach's Alpha > 0.60) of the instrument.
- Secondary Data: Includes Regulatory Documents (including Presidential Regulation Number 46 of 2025), Official Reports of Procurement Institutions (LKPP, KPK), and Scientific Publications.

4. Data Analysis Methods

Data analysis was carried out systematically in three stages:

- Qualitative Data Analysis: Interview data were analyzed to map the root of the problem and the causative factors, which became the basis for the questionnaire design.
- Quantitative Data Analysis: Using SPSS software, consisting of:
  a. Descriptive Statistical Analysis: Provides an overview of the data (mean, standard deviation).
  b. Multiple Linear Regression Analysis: Used to test hypotheses, prove causal relationships, and rank dominant factors based on the value of the regression coefficient (beta coefficient) and significance value (p-value).

RESULTS AND DISCUSSION

This study uses the Mixed Methods Sequential Exploratory Strategy approach. This approach is designed to achieve a holistic understanding, starting with qualitative exploration and continuing with quantitative measurement. The research procedure is carried out through the qualitative phase, instrument development, and quantitative phase, which then ends with the integration of findings.

1. Qualitative Phase (Exploration and Development of Concepts)

This phase aims to explore and validate the factors that affect the efficiency of the selection of construction service providers through the E-catalog from the perspective of key experts/respondents.

- Method: Interview, conducted using the asynchronous interview method.

- Sample: Using the Purposive Sampling technique. Although 9 experts/respondents were planned, only 4 experts/respondents gave complete answers to be processed.
- Qualitative Results: Expert/respondent answers were validated and grouped based on factors from the literature study.
    a. There is validation of the 7 main factors from the literature study.
    b. 4 new indicators were identified from the insights of experts. The new indicators are: Interconnection of Supporting Databases (X_T4), Alignment of Central and Regional Regulations (X_K3), Integrity (X_S4), and Implementation Mentality (X_S5).
    c. The total number of independent variable indicator items (Variable X) increased from 17 to 21 indicator items. These new indicators are then incorporated into the operational definition of the variable and form the basis for the questionnaire preparation.

Table 1. Additional New Indicators from Expert Interviews

No.	Origin Factors	Factor Codes	New Indicators from Expert Interviews	New Item Code
1.	Technology Factor	X_T	Supporting Database Interconnection (Verification of provider data at the Ministry of PUPR)	X_T4
2.	Policy and Regulatory Factors	X_K	Alignment of Central and Regional Regulations (State Budget Accommodation vs. Regional Budget)	X_K3
3.	User and HR Factors	X_S	Integrity (Commitment of the implementer to avoid manipulation of the system)	X_S4
4.	User and HR Factors	X_S	Implementation Mentality (Focus on quality and benefits, not just budget absorption)	X_S5

2. Quantitative Phase (Instrument Testing and Data Analysis)

The quantitative phase begins after the instrument is enriched and validated in the qualitative phase, aiming to measure perceptions and determine the dominance of factors.

A. Instrument Testing (Pilot Test)

- Objective: To test the validity and reliability of the questionnaire instrument.
- Sample: 32 qualified respondents out of 34 collected.
- Validity Test Results: The r-value of the table was set at 0.339 (alpha=5%, N=32).
    a. 30 of the 31 indicator items (X and Y) were declared Valid (r count > 0.339).
    b. Item X_T2 ("E-catalog system integrates seamlessly with other working systems") is declared Invalid (r count = 0.251 less than 0.339) and is then rejected or discarded.
- Reliability Test Results: The overall instrument's Cronbach's Alpha value was 0.940. This value is well above the minimum threshold of 0.60, indicating that this instrument has a very high level of reliability, is stable, and is suitable for primary data collection.

B. Key Data Collection and Classical Assumption Test

- Population and Main Sample: The population is all members of the National Procurement Expert Discussion Forum Community (428 people). The minimum sample required is 82 respondents. The data that was successfully collected and processed was N=98 respondents.
- Sample Characteristics:
    a. Institutional Dominance: The absolute majority (81.63%) comes from the Regency/City Government.
    b. Experience Dominance: More than 54% of respondents have "More than 6 years" of PBJP experience.
- Classic Assumption Test:
  Model Eligibility: The regression model is statistically declared Eligible and Valid for further multiple linear regression testing as shown in Figures 1 and 2.
    a. Normality (K-S Test and Normal P-P Plot) : Sig Value. = 0.200 (Sig. > 0.05), and the dots spread close to the diagonal line on the chart. Conclusion: Fulfilled.
    b. Multicollinearity (VIF): Tolerance value > 0.10 and VIF < 10. Conclusion: Fulfilled.

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c. Heteroscedasticity (Scatterplot): The dots spread randomly and do not form a specific pattern. Conclusion: Fulfilled.

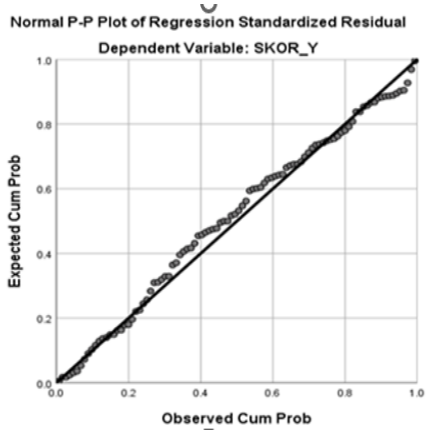

Figure 2. (K-S Test and Normal P-P Plot)

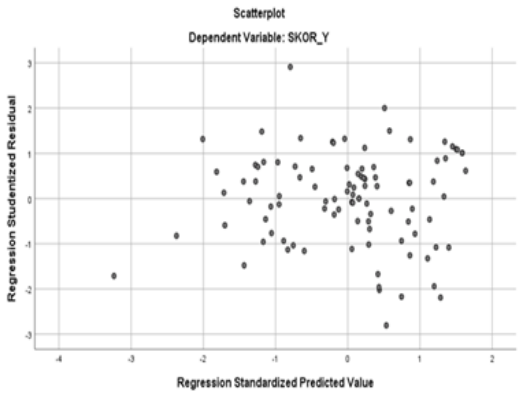

Figure 3. (Scatterplot)

3. Results of Quantitative Data Analysis

1) Descriptive Statistical Analysis (Respondent Perception)

Mean Score Analysis (Likert Scale 1-5) was used to determine respondents' perception of influence factors (X) and Provider Selection Efficiency (Y).

Table 2. Summary of Descriptive Statistics and Perception Ranking

Ranking	Factor	Mean Score	Std. Deviation	Interpretation
1.	Organizational Factors (X_O)	4.0986	0.77061	Highest
2.	Consumer & HR Factors (X_S)	4.0102	0.66075	Tall
3.	Technology Factor (X_T)	3.9728	0.81040	Tall
Lowest	Policy & Regulation Factors (X_K)	3.4762	0.86817	Lowest

Interpretation:

1. Most Superior Variable: Organizational Factor (X_O) was perceived best (Mean 4.0986).
2. Most Attention-Worthy Variable: Policy & Regulation Factors (X_K) had the lowest Mean Score (3.4762).
3. Most Heterogeneous Variable: Policy & Regulation Factors (X_K) have the highest Standard Deviation (0.86817). This indicates that there is the greatest diversity of views among respondents regarding Policy and Regulation aspects.

2) Multiple Linear Regression Analysis (Dominant Influence Test)

A. Simultaneous Test (F Test) Test F aims to test the effect of all independent variables together on the bound variables as shown in table 1.

- Significance Value (Sig.): 0.000.
- Comparison: Because Sig. 0.000 < 0.05.
- Conclusions: Simultaneously, all independent variables (X_T, X_O, X_L, X_K, X_S, X_P, and X_E) had a significant effect on the bound variables (SKOR_Y).

Table 3. Simultaneous Test Results

Type	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	26.294	7	3.756	13.124	.000
Residual	25.760	90	.286		
Total	52.054	97			

B. Coefficient of Determination (R Square and Adjusted R Square)

- Adjusted R Square: 0.467 (or 46.7%).

- Implications: 46.7% variation in Provider Selection Efficiency (SKOR_Y) can be explained collectively by all seven factors studied

Table 4. Coefficient of Determination (R Square or Adjusted R Square)

Type	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.711a	.505	.467	.53499

C. Partial Test (t-test) and Dominance Ranking
The t-test is performed to identify individual influences, while the Beta coefficient determines the ranking of the dominance factors in the model.

- T-test (Partial Significance):
  a. None of the independent variables have a Sig value. smaller 0.05.
  b. The Environmental variable (SKOR_X L) has a Sig. value of 0.077, which is the closest to significant.

Table 4. Table of t-Test Results and Regression Coefficients (Beta)

Variable Free (X)	Coefficient Regression (B)	t Count	Sig. (p-value)	Information Variable
XT SCORE	.131	1.232	.221	Technology
XO SCORE	-.026	-.230	.819	Organization
XL SCORE	.237	1.787	.077	Environmental
XK SCORE	-.049	-.418	.677	Policies and regulations
XS SCORE	.209	1.492	.139	Users and HR
XP SCORE	.069	.529	.598	Provider
SCORE X E	.173	1.600	.113	External and Context
(Constant)	.750	2.139	.035	

- Direction of Influence (Regression Coefficient B):
  a. Positive Influences: X_T (0.131), X_L (0.237), X_S (0.209), X_P (0.069), and X_E (0.173).
  b. Negative Influences: X_O (-0.026) and X_K (-0.049).

Table 4. Dominance Ranking Based on Standardized Coefficients

Ranking	Independent Variables	Beta	Influence
1.	Environmental Factors (SKOR_X L)	0.273	Most Dominant
2.	External Factors & Context (SKOR_X E)	0.204	Strong
3.	Consumer Factor & HR (SKOR_X S)	0.189	Strong
4.	Technology Factor (SKOR_X T)	0.145	Keep
7.	Organizational Factors (SKOR_X O)	- 0.028	Weakest

4. Discussion of Findings
This discussion integrates qualitative (factor construction) and quantitative (statistical) findings to interpret anomalies, identify gaps, and answer problem formulations comprehensively.

1. Interpretation of Systemic Influences and Functional Multicollinearity
The findings of the simultaneously significant F Test (Sig.=0.000) prove that the efficiency of the Construction E-Catalog is a systemic and interdependent phenomenon. Efficiency improvements must be achieved through integrated interventions across all expanded Technology, Organization, and Environment (TOE) dimensions.
However, t-test failure (no partially significant variable) indicates the presence of Functional Multicollinearity. In PBJP operations, initiatives for improvements to one factor (e.g., user-friendliness systems) are almost always followed by improvements to other factors (such as HR Training Programs). This strong interdependence makes the specific contribution of each variable difficult to isolate statistically. Nevertheless, the combined model remains valid and has strong explanatory power (46.7%).

2. Critical Dominance of Environmental Factors (Market)

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The quantitative findings explicitly placed Environmental Factors (SKOR_X L) as the most dominant factor (Rank 1, Beta=0.273). These findings have critical implications in the context of the construction E-Catalog.

a. Theoretical Relevance (TOE): The dominance of these external factors explicitly contributes to the development of the TOE framework by proving that in the context of PBJP, Environmental factors (Market Externalities) are the most dominant drivers of efficiency, exceeding the internal dimensions (Technology and Organization).
b. Practical Implications (Market): This dominance confirms that Cost Efficiency (budget savings and price fairness) is highly dependent on the quality and market competitiveness of construction service providers listed on the E-Catalog platform (Competitive Market). If market inputs are not competitive, efficiency goals will be hampered, regardless of the sophistication of the technological system. The significance value that is close to the threshold (Sig.=0.077) further strengthens the importance of this external factor.

3. Critical Gap Analysis (Perception Anomalies and Heterogeneity)

This study identifies two critical anomalies in internal factors that require policy attention:

1) Perception-Impact Gap of Organizational Factors
   a. Anomalies: Organizational Factors (SKOR_X O) were perceived to be the most superior by respondents (Mean=4.0986 - Excellent), but had the weakest and most negative influence in the regression model (Beta= -0.028).
   b. Discussion: This shows a gap between the perceived quality of support and the impact of its effectiveness. Existing support may be only procedural or compliance fulfillment (availability of resources and management support) but not effective in addressing internal operational bottlenecks (e.g., bureaucracy). These findings enhance the TOE literature by emphasizing the need for effectiveness evaluations, not just the availability of organizational support.
2) Heterogeneity of Policy & Regulation Factors
   a. Anomalies: Policy & Regulation factors (SKOR_X K) had the highest diversity of views (Std. Dev.=0.86817) and negative regression coefficients (Beta=-0.058).
   b. Discussion: This high heterogeneity is rooted in the issue of Central and Regional Regulation Alignment (X_K3), which was identified in the qualitative phase. With the dominance of respondents from Regency/City Governments (81.63%), these findings show that top-down regulations that fail to accommodate differences in regional financial governance (APBD vs. APBN) create friction and uncertainty, which, in a minor way, tends to reduce efficiency. This issue is a contribution of research novelty that enriches the literature with contextual and local factors.

4. Research Strengths (Novelty Contributions)

The main strength of this research is the use of the Exploratory Sequential Mixing Method, which systematically integrates the findings.

a. Development of the TOE Framework: This study empirically proves that in the context of government PBJP in Indonesia, the Environmental factor (Market Externality) is the most dominant driver of efficiency (Beta 0.273).
b. Contextual Critical Factor Validation: Successfully added and tested new indicators that are very specific and sensitive to the integrity and local governance issues of PBJP Indonesia, namely Integrity (X S4), Implementation Mentality (X_S5), and Alignment of Central & Regional Regulations (X_K3).
c. Systematization of Procedures: The research procedure is clearly structured, ranging from the identification of initial factors through literature review and expert interviews, rigorous instrument trials (resulting in the validity of Cronbach's Alpha 0.940), to multiple linear regression analysis that meets all classical assumptions. This guarantees the strength and validity of the findings.

CONCLUSION

This study uses the Mixed Methods Sequential Exploratory approach to identify, rank, and formulate recommendations for factors that affect the efficiency of the selection of construction service providers through the National E-Catalog, answering all the set research objectives. 1) Identify Systemic Factors and Influences (Answering Objective 1), Factors influencing efficiency were successfully identified and validated through a literature review and expert/respondent interviews. The qualitative phase enriched the model by adding four new contextual indicators, including Integrity (X_S4) and Alignment of Central and Regional Regulations (X_K3). Collectively, the seven independent factors modeled were shown to have a simultaneous significant effect on Provider Selection Efficiency (SKOR_Y) (F Sig.=0.000 Test). This conclusion confirms that the efficiency of E-Catalog is a systemic phenomenon; Its improvement requires integrated and synergistic interventions across the expanded Technology, Organization, and Environment (TOE) dimensions. 2) Factor Dominance Degree (Answering Objective 2), Although the model showed Functional Multicollinearity (The t-test was not partially significant), the Standardized Beta Coefficient analysis successfully ranked the strength of the substantive influence of factors. Environmental Factors (X L SCORE) proved to be the most dominant factor (Beta=0.273). This dominance concludes that the transformational success of E-Catalog depends heavily on the quality and competitiveness of the market of the provider who is the input of the platform, beyond the influence of internal factors. Critical anomalies were found: Organizational Factors were perceived to be Very Good (Mean=4.0986), but had the weakest and most negative influence (Beta=-0.028). This shows that there is a gap between the quality of support felt and the impact of its effectiveness on the ground. In addition, Policy/Regulation Factors have the highest diversity of views (Std. Dev.=0.86817), reflecting the inconsistency of central and regional regulations that hinder efficiency. The model's predicted efficiency is 3.6456, indicating significant room for improvement that should be prioritized on Environmental Factors and External Factors which are the most dominant factors.

CONFESSION

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REFERENCES

[1] Indonesian Corruption Watch, “Pemetaan Potensi Kecurangan dalam Metode E-Purchasing pada Proses Pengadaan Barang/Jasa di Indonesia Indonesia Corruption Watch | 2023,” pp. 1–20, 2023, [Online]. Available: https://antikorupsi.org/sites/default/files/dokumen/Mapping Potential Fraud in Epurchasing Procurement in Indonesia.pdf

[2] 2025 Perpres 46, “Perpres 46 tahun 2025 - Sosialisasi Revisi kedua Perpres 16 tahun 2018 untuk APIP,” 2025.

[3] D. suryanta Surbakti, Azharuddin, and A. F. Tanjung, “Membangun sistem e-government sebagai terobosan melawan korupsi di indonesia,” *Ilmu Huk. Prima*, vol. 7, no. 1, pp. 72–83, 2024, doi: 10.34012/jihp.v7i1.4795.

[4] D. Ariza, "E-Katalog: Langkah Strategis Pemerintah Dalam Memerangi Fraud Pengadaan Barang Dan Jasa," *Akad. J. Mhs. Ekon. Bisnis*, vol. 4, no. 1, pp. 20–29, 2024, doi: 10.37481/jmeb.v4i1.649.

[5] L. K. P. B. P. (LKPP), "Latar belakang materi serap aspirasi peraturan turunan Perpres 46 Tahun 2025," Lembaga Kebijakan Pengadaan /Barang/Jasa Pemerintah (LKPP), 2025, p. 9. doi: https://drive.google.com/file/d/1p1_iBufv6r8tiFfLHt42FNT7TwE70yAf/view?usp=sharing.

[6] S. Donyavi, R. Flanagan, A. Assadi-Langroudi, and L. Parisi, "Understanding the complexity of materials procurement in construction projects to build a conceptual framework influencing supply chain management of MSMEs," *Int. J. Constr. Manag.*, vol. 24, pp. 177–186, 2023, [Online]. Available: https://api.semanticscholar.org/CorpusId:264135797

[7] "Berita LKPP 10 Desember 2024." [Online]. Available: https://www.lkpp.go.id/read/s/presiden-ri-prabowo-subianto-resmi-luncurkan-e-katalog-versi-6-0

[8] "Berita LKPP, 11 maret 2025," *LKPP, Jakarta*. [Online]. Available: https://www.lkpp.go.id/read/s/cegah-korupsi-dan-kecurangan-lkpp-dorong-transparansi-dan-akuntabilitas-dalam-pengadaan-barang-jasa-pemerintah

[9] "Berita KPK 12 Juni 2024." [Online]. Available: https://www.kpk.go.id/id/ruang-informasi/berita/kpk-cegah-korupsi-pada-pengadaan-barang-dan-jasa-e-katalog-harus-diawasi-bersama

[10] "Berita LKPP, 4 maret 2024," *LKPP*. [Online]. Available: https://www.lkpp.go.id/read/bu/lkpp-beri-sanksi-tegas-penyedia-katalog-elektronik-yang-langgar-aturan

[11] E. Purwono, T. Ophiyandri, and B. Hidayat, "Evaluation of Implementation Procurement Policies Via E-Catalog for Construction Work (Case Study: National Road Implementation Agency For West Sumatera Region)," *CIVED*, 2024, doi: 10.24036/cived.v11i3.640.

[12] G. W. Priambudi and E. Dazki, "Evaluation of the Acceptance of the E-Catalog Application System for Construction Services Procurement in Government Using the UTAUT (Unified Theory of Acceptance and Use of Technology) Model," *J. Teknol. Sist. Inf. dan Apl.*, vol. 7, no. 4, pp. 1624–1637, 2024, doi: 10.32493/jtsi.v7i4.44673.

[13] M. J. A. Prince, "The Role of Technology in Improving Operational Efficiency," *Am. J. IR 4.0 beyond*, vol. 3, no. 1, pp. 28–36, 2024, doi: 10.54536/ajirb.v3i1.3663.

[14] V. A. Matayo, J. Abdulganiyu, M. N. Musa, and A. A. Ahmed, "Efficient Management of Information Communication Technology Resources in an Organisation," *Qeios*, 2023, doi: 10.32388/npd8vx.

[15] K. Rk and S. Mk, "Exploring the Role of Technology in Enhancing Organisational Productivity," *Shanlax Int. J. Manag.*, 2024, doi: 10.34293/management.v11is1-mar.7994.

[16] B. Bramantyo, E. A. Halim, S. O. A. Arring, and D. W. Sukmaningsih, "Enhancing Readiness: A Comprehensive Study on ERP Implementation Readiness Factors," pp. 1–6, 2024, doi: 10.1109/icimtech63123.2024.10780801.

[17] N. A. S. F. Lubis and M. I. P. Nasution, "Optimalisasi Efesiensi Bisnis Organisasi Melalui Pemanfaatan Sistem Dan Teknologi Informasi," *J. Tek. Mesin, Ind. Elektro dan Inform.*, vol. 2, no. 4, pp. 264–271, 2023, doi: 10.55606/jtmei.v2i4.3130.

[18] S. EBIESUWA, B. GEGELESO, T. Falana, A. Adepoju-Bello, and O. BAMISILE, "Impact of Information Systems on Operational Efficiency: A Comprehensive Analysis," *Indian J. Comput. Sci. Eng.*, vol. 14, no. 4, pp. 661–673, 2023, doi: 10.21817/indjcse/2023/v14i4/231404013.

[19] S. Fadillah, A. Mukhlasin, N. Athirah, M. Jannah, and T. Arini, "Peran Teknologi Dalam

Optimalisasi Manajemen Organisasi Pendidikan," *J. Motiv. Pendidik. dan Bhs.*, vol. 2, no. 3, pp. 93–105, 2024, doi: 10.59581/jmpb-widyakarya.v2i3.3850.

[20] E. A. Grebenyuk, "Identification of Significant Factors for Improving the Efficiency of Enterprises Based on the Construction of an Efficient Frontier," vol. 1864, no. 1, p. 12101, 2021, doi: 10.1088/1742-6596/1864/1/012101.

[21] A. P. C. Chan and E. K. Owusu, "Evolution of Electronic Procurement: Contemporary Review of Adoption and Implementation Strategies," *Buildings*, vol. 12, no. 2, p. 198, 2022, doi: 10.3390/buildings12020198.

[22] S. Herold, J. Heller, F. Rozemeijer, and D. Mahr, "Dynamic capabilities for digital procurement transformation: a systematic literature review," *Int. J. Phys. Distrib. Logist. Manag.*, vol. 53, no. 4, pp. 424–447, 2023, doi: 10.1108/IJPDLM-12-2021-0535.

[23] I. Guidara, N. Guermouche, T. Chaari, S. Tazi, and M. Jmaiel, "Heuristic Based Time-Aware Service Selection Approach," *Proc. - 2015 IEEE Int. Conf. Web Serv. ICWS 2015*, pp. 65–72, 2015, doi: 10.1109/ICWS.2015.19.

[24] M. Assaf, M. Hussein, S. Abdelkhalek, and T. Zayed, "A Multi-Criteria Decision-Making Model for Selecting the Best Project Delivery Systems for Offsite Construction Projects," *Buildings*, vol. 13, no. 2, 2023, doi: 10.3390/buildings13020571.

[25] B. Rahardjo, F. K. Wang, S. C. Lo, and J. H. Chou, "A Hybrid Multi-Criteria Decision-Making Model Combining DANP with VIKOR for Sustainable Supplier Selection in Electronics Industry," *Sustain.*, vol. 15, no. 5, 2023, doi: 10.3390/su15054588.

[26] R. Baki, "An Integrated Multi-criteria Structural Equation Model for Green Supplier Selection," *Int. J. Precis. Eng. Manuf. - Green Technol.*, vol. 9, no. 4, pp. 1063–1076, 2022, doi: 10.1007/s40684-021-00415-7.

[27] A. Mahmoudi and S. A. Javed, *Probabilistic Approach to Multi-Stage Supplier Evaluation: Confidence Level Measurement in Ordinal Priority Approach*, vol. 31, no. 5. Springer Netherlands, 2022. doi: 10.1007/s10726-022-09790-1.

[28] B. I. Reiner, "Transforming health care service delivery and provider selection," *J. Digit. Imaging*, vol. 24, no. 3, pp. 373–377, 2011, doi: 10.1007/s10278-011-9379-9.