# Strategy for Electronic Procurement of Good/Services Through Electronic Catalogues at the Ministry of Cooperatives

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## ABSTRACT

*Government procurement of goods and services is an important part of state financial management that requires transparency, efficiency, and accountability. This study was motivated by the suboptimal implementation of e-procurement through electronic catalogs (e-catalogs) at the Ministry of Cooperatives, as evidenced by the limited number of products on display, the unavailability of all necessary goods, prices that do not always reflect the lowest rates, and technical as well as administrative obstacles in the e-purchasing process. The purpose of this study is to identify the factors causing the suboptimal implementation of e-procurement and to formulate appropriate strategies to enhance its effectiveness. The research method employs a descriptive qualitative approach, with data collection techniques that include in-depth interviews, observation, and a literature review on the implementation of e-catalog. Data analysis was conducted using the Technology–Organization–Environment (TOE) framework and SWOT analysis. The results of the study show that technological factors (system complexity and IT infrastructure), organizational factors (human resource competencies), and environmental factors (regulations and inter-agency coordination) are the dominant elements influencing the implementation of e-catalogs. The recommendations of this study emphasize the need to strengthen the capacity of procurement human resources, develop a real-time, data-based electronic catalog system, and improve coordination between work units and providers to support the principles of good governance in government procurement of goods and services.*

| KEYWORDS | *Strategy; E-Procurement; E-Catalogue* |
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## INTRODUCTION

Government procurement of goods and services is one of the most crucial components of public financial management, significantly contributing to the effectiveness of government administration (Amankwa & Tetteh, 2022; Cheruiyot, 2018; Kikavets & Tsaregradskaya, 2023). Transparency, accountability, and efficiency are the core values pursued in every public procurement process (Bastian, 2013). However, conventional procurement systems that rely on face-to-face interactions often lead to inefficiencies, potential collusion, and low accountability (Syafika, 2021). Therefore, the transformation toward an electronic procurement system (e-procurement) has become essential in realizing the principles of good governance and clean government (Aboelazm, 2018; Bawole & Adjei-Bamfo, 2020; Mwangi et al., 2016).

The policy of implementing e-procurement in Indonesia began with Presidential Regulation Number 54 of 2010, which mandates that all government procurement must be carried out electronically. This regulation was strengthened by Presidential Regulation Number 16 of 2018 and its amendments, emphasizing efficiency, transparency, and the increased use of

domestic products in all stages of procurement. The government subsequently developed the electronic catalogue (e-catalogue) system as the main medium for e-purchasing, managed by the National Public Procurement Agency (LKPP). This system provides a digital list of goods and services along with their specifications and prices, enabling users to make purchases quickly, transparently, and with proper documentation (Iqbal, 2020).

The e-catalogue provides several strategic advantages, including accelerating the procurement process, facilitating price comparison, and promoting the participation of Micro, Small, and Medium Enterprises (MSMEs) in the government procurement ecosystem (Diani & Lubis, 2022). Affirmative policies for domestic products are also reinforced through Presidential Instruction Number 2 of 2022 and the Circular Letter of the LKPP Head Number 3 of 2023 concerning the Affirmation of Domestic Product and MSME Spending through E-Purchasing. Thus, procurement digitalization not only enhances bureaucratic efficiency but also serves as an instrument for strengthening the national economy (Putranta, 2022).

Despite its potential benefits, the implementation of e-procurement in Indonesia has not yet been fully optimized (Choi et al., 2016; Sa'adah, 2020). Several studies reveal persistent barriers stemming from technological, organizational, and environmental factors (Mohungoo, Brown, & Kabanda, 2020; Adade & de Vries, 2024). From the technological perspective, challenges include system complexity, data security, and limited IT infrastructure. Organizationally, issues arise from human resource competency and resistance to change. Meanwhile, environmental factors such as inconsistent regulations and weak inter-agency coordination often delay implementation (Aryanto, Hanum, & Syaefudin, 2023). These obstacles indicate that the effectiveness of e-procurement is largely determined by system readiness, institutional capability, and policy support.

The Ministry of Cooperatives is one of the institutions that has implemented electronic procurement since 2011, as regulated by Ministerial Regulation Number 13/PER/M.KUKM/XII/2011. As an institution responsible for MSME empowerment, the ministry holds a strategic role in ensuring small business participation in the e-catalogue system. However, data from 2024 show that although the realization rate of e-purchasing reached 86.24%, the number of products listed in the ministry's e-catalogue was only around 2,472 items—significantly lower than other ministries. This limited number of products affects efficiency, reduces supplier options, and results in less competitive pricing. Such conditions reveal a gap between e-procurement policies and their practical implementation.

**Tabel 1. Comparison of the Percentage of Achievement of the Ministry's E-Purchasing Commitment in 2024 and the Ministry's E-Catalog Products Published in 2024**

| | Ministry | E-Purchasing Commitment Achievement (%) | E-Catalogue Display Products |
|---|---|---|---|
| 1. | Ministry of Communication and Information | 79,31% | 7.178 Products |
| 2. | Ministry of Cooperatives and SMEs | 86,24% | 2.472 Products |
| 3. | Ministry of Industry | 85,60% | 3.419 Products |

| | Ministry | E-Purchasing Commitment Achievement (%) | E-Catalogue Display Products |
|---|---|---|---|
| 4. | Ministry of Tourism and Creative Economy | 85,40% | 13.852 Products |
| 5. | Ministry of Villages, Development of Disadvantaged Regions and Transmigration | 81,34% | 4.325 Products |

Source: Government Goods/Services Procurement Policy Institute, 2024, data processed by researchers.

The Procurement Governance Index assessment shows that the Ministry's score increased from 79.12 in 2023 to 91.58 in 2024, yet the e-purchasing indicator remains below the national target (Tabel 2). This indicates that while institutional and human resource capacities have improved, the implementation of the e-catalogue system still faces technical and procedural obstacles. Common issues include incomplete product availability, discrepancies between listed and market prices, and technical failures such as system maintenance, network disruptions, and delays in the e-contract process (Lestyowati, 2018) (Rahayu & Murtinah, 2022). These issues reduce the efficiency and accountability of procurement activities within the Ministry of Cooperatives.

**Tabel 2. Comparison of ITKP Scores of the Ministry of Cooperatives and SMEs for 2023-2024**

| Indicators/Year | 2023 | 2024 |
|---|---|---|
| SIRUP | 10,00 | 9,48 |
| E-Tendering | 5,00 | 4,30 |
| E-Purchasing | 0,00 | 3,92 |
| Toko Daring | 1,00 | 1,00 |
| Non E-Tendering/ Non E-Purchasing | 5,00 | 5,00 |
| E-Kontrak | 4,83 | 4,70 |
| Qualifications and Competencies of PBJ HR | 17,73 | 23,18 |
| UKPBJ Maturity Level | 35,56 | 40,00 |
| Total Weighted Value | 79,12 | 91,58 |
| Predicate | Baik | Sangat Baik |

Source: Government Goods/Services Procurement Policy Agency, 2023-2024.

The Technology–Organization–Environment (TOE) framework developed by Tornatzky and Fleischer is a relevant analytical tool for identifying factors influencing public technology adoption. In the context of electronic procurement, the technological dimension relates to system and infrastructure readiness, the organizational dimension reflects management support and staff competency, while the environmental dimension encompasses regulatory support, external pressures, and inter-agency collaboration (Assaye et al., 2024).

Previous research has extensively examined the implementation of e-procurement and e-catalogue systems in various contexts. Mohungoo, Brown, and Kabanda (2020) conducted a systematic review of implementation challenges in public e-procurement and identified persistent barriers stemming from technological, organizational, and environmental factors across developing countries. Adade and de Vries (2024) extended the TOE framework to analyze local government technology adoption for citizen participation, emphasizing that

system complexity, data security, and limited IT infrastructure remain significant technological obstacles. Aryanto, Hanum, and Syaefudin (2023) examined digital accounting adoption in Indonesian MSMEs and found that organizational factors such as human resource competency and resistance to change, along with environmental factors like inconsistent regulations and weak inter-agency coordination, often delay technology implementation.

In the specific context of e-catalogue implementation in Indonesia, Iqbal (2020) analyzed the effect of e-catalogue adoption on government procurement and found that while the system improves transparency and efficiency, its effectiveness is highly dependent on system readiness and user competence. Diani and Lubis (2022) examined the impact of e-catalogue implementation on MSME development in Medan City and concluded that affirmative policies have not been fully optimized due to limited product listings and uneven provider participation. Lestyowati (2018) identified common problems in e-purchasing implementation, including incomplete product availability, discrepancies between listed and market prices, and technical failures such as system maintenance and network disruptions. Rahayu and Murtinah (2022) analyzed the implementation of electronic procurement at the Presidential Secretariat's Procurement Service Unit and found that technical and procedural obstacles continue to hamper optimal e-catalogue utilization.

Despite the growing body of literature, several research gaps remain unaddressed. Most existing studies on e-procurement in Indonesia have focused on national or local government levels, with limited empirical investigation of sectoral e-catalogue implementation within specific ministries—particularly the Ministry of Cooperatives and SMEs. Few studies have systematically analyzed the interrelationship between technological, organizational, and environmental factors using an integrated TOE framework combined with SWOT analysis. There is also a lack of research examining the gap between high e-purchasing commitment achievement (86.24%) and limited e-catalogue product availability (only 2,472 items). Moreover, no study has comprehensively evaluated the effectiveness of affirmative policies for MSME participation in sectoral e-catalogues at the ministerial level. Existing research has predominantly employed quantitative surveys, leaving a gap in rich, contextual qualitative studies capturing the lived experiences of procurement officials and e-catalogue administrators.

The urgency of this research is underscored by the Ministry of Cooperatives' strategic role in MSME empowerment, despite its significantly lower e-catalogue product listings compared to other ministries; the persistent e-purchasing indicator gap (3.92) even after achieving a "Very Good" ITKP predicate; the mandate of Presidential Instruction Number 2 of 2022 requiring immediate evaluation of e-purchasing implementation effectiveness; and the dynamic regulatory environment alongside increasing public demand for transparency, which necessitate evidence-based recommendations. The novelty of this research lies in being the first to specifically examine sectoral e-catalogue implementation at the Ministry of Cooperatives using an integrated TOE and SWOT analytical framework. It provides empirical evidence on the paradox between high e-purchasing commitment achievement and limited product availability, offers detailed mapping of MSME participation patterns across eight product categories, identifies previously undocumented technical and administrative bottlenecks in negotiation and e-contract processes, and formulates context-specific strategies (SO, WO, ST, WT) tailored to the Ministry's unique organizational characteristics and constraints.

By integrating the TOE framework with SWOT analysis, this study aims to map the strengths, weaknesses, opportunities, and threats in implementing the e-catalogue within the Ministry of Cooperatives to formulate effective improvement strategies. The benefits of this research are multifaceted. From a theoretical perspective, this study contributes to the body of knowledge on e-government adoption and public procurement by extending the application of the TOE framework to the context of sectoral e-catalogue implementation in Indonesian ministries. The integration of TOE and SWOT analysis provides a novel analytical model that can be replicated in similar public sector technology adoption studies. The findings also enrich the literature on the digital divide between policy formulation and operational implementation in government procurement systems.

## RESEARCH METHOD

This research employed a descriptive qualitative method with an analytical approach, aiming to explore and analyze the implementation strategy of electronic procurement (e-procurement) through the electronic catalogue (e-catalogue) at the Ministry of Cooperatives. The method was selected because it allows for a comprehensive understanding of the research problem through an in-depth examination of the technological, organizational, and environmental factors influencing policy implementation.

The research was conducted from February at the Ministry of Cooperatives in Jakarta, Indonesia. This location was chosen because the ministry serves as the central coordinating institution for cooperative and MSME development and has implemented an internal e-catalogue system managed in collaboration with the National Public Procurement Agency (LKPP). Primary data were obtained through in-depth interviews with key informants, including officials from the Procurement Work Unit (UKPBJ), Commitment-Making Officials (PPK), procurement staff, and e-catalogue administrators. Meanwhile, secondary data were gathered from government reports, procurement transaction records, and scientific publications relevant to public procurement and e-government systems.

The research instruments used included structured and semi-structured interview guides, observation sheets, and document analysis sheets. The interview guide was designed to identify factors affecting e-procurement implementation based on the Technology–Organization–Environment (TOE) framework. The observation sheets were used to record the procedural flow of e-catalogue transactions, system accessibility, and user interactions, while document analysis was applied to verify the consistency of implementation with applicable regulations.

Data were analyzed using interactive analysis techniques, which involved four key stages: data collection, data reduction, data presentation, and conclusion drawing. To ensure data validity and reliability, the study employed triangulation of sources and methods. Information obtained from interviews was cross-checked with documentary evidence and direct observation results. This triangulation process was essential for strengthening the credibility of the research findings and minimizing potential researcher bias.

The overall methodological design provided a structured analytical process to explore both the technical and managerial aspects of e-procurement implementation. By combining descriptive and analytical approaches, the research produced a comprehensive depiction of the factors hindering and supporting the effectiveness of the e-catalogue system, thereby

contributing to the formulation of strategic recommendations for improving electronic procurement governance within the Ministry of Cooperatives.

## RESULT AND DISCUSSION

The results of the research show that the implementation of *e-procurement* through the *e-catalogue* at the Ministry of Cooperatives is influenced by three major determinants technological, organizational, and environmental factors in accordance with the Technology Organization Environment (TOE) framework. Each dimension exhibits different levels of readiness and constraints that collectively shape the Ministry's overall e-procurement performance.

### 1    Technology Factors

Implementation of electronic procurement of goods/services through sectoral e-catalog at the Ministry of Cooperatives. This indicates a significant change in the effectiveness and transparency of the procurement process. Unlike the national e-catalog, the sectoral e-catalog is limited to the needs of the agency itself, such as training services, MSME empowerment, and procurement of operational goods. This limitation creates its own dynamics: on the one hand, it increases efficiency and accountability, but on the other hand, it does not create the same level of competition as the national e-catalog.

From a technological perspective, the primary benefit of the e-catalog is its ability to accelerate the procurement process, reduce bureaucracy, and support accountability through digital record-keeping. Interviews with Commitment Making Officials and Deputy Representatives indicate that procurement processes that previously took weeks can now be completed in a matter of days. The e-catalog system also allows for automatic documentation of every stage, from negotiation to payment, simplifying audits and oversight.
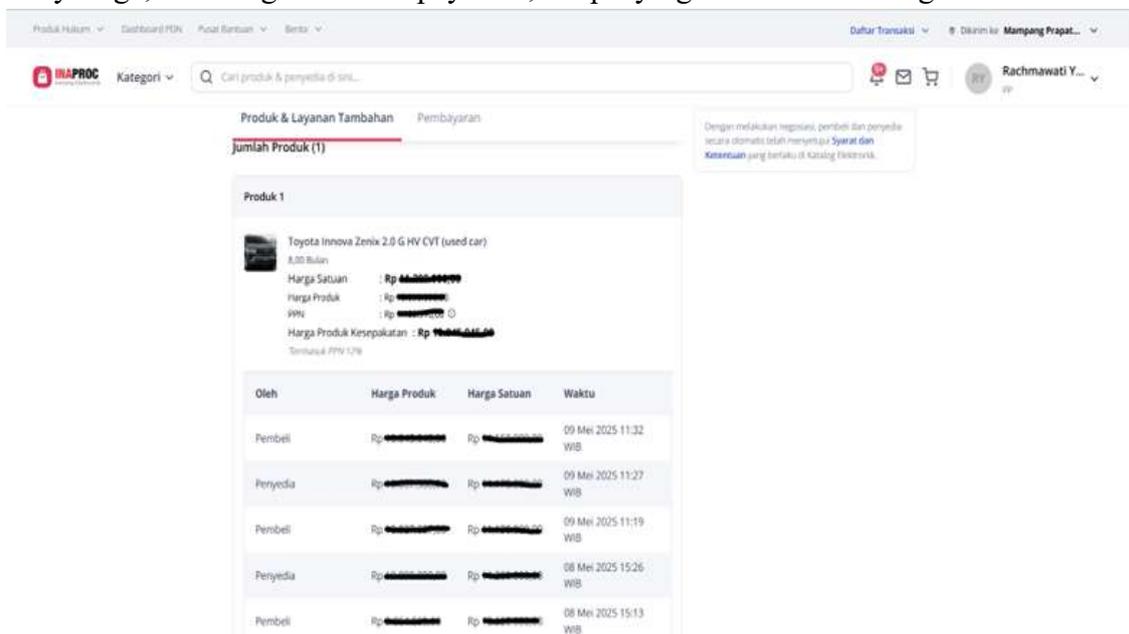


**Figure 1. Negotiations History in the Procurement Process of Goods through Electronic Catalogs**
Source: Researcher Observation Results, 2025.

The relative advantages of the e-catalog system are clearly visible compared to conventional methods, as the process is faster, simpler, and more flexible, as shown in Figure 1. Users can tailor their needs according to competitive specifications and prices. For providers, this system reduces administrative burdens and increases price transparency, resulting in healthier competition. However, field findings also indicate that optimal benefits are only achieved when providers actively and promptly respond to negotiations.

From the perspective of compatibility, the e-catalog has proven to be well aligned with the work structure of the Ministry of Cooperatives. The system allows for a clear division of tasks among units, integration with the General Procurement Planning Information System (SIRUP), and support for budget flows and official agency procedures. This alignment facilitates adaptation and strengthens the legitimacy of e-catalogs within modern procurement systems.

However, complexity remains a major challenge. Several obstacles arise in adapting product specifications to actual needs, unexpected changes in catalog content, and technical disruptions such as system maintenance, as illustrated in Figure 2. The system also faces challenges such as intense price competition and risks related to after-sales services. This complexity suggests that successful implementation depends not only on technological readiness but also on effective coordination and user preparedness.

**Figure 2. Electronics Catalogue Application Maintenance Notification Letter Version 6**
Source: Government Goods/Services Procurement Policy Agency, 2025.

Aspect security is an important factor that receives high attention. The e-catalog system has been equipped with layered authentication through OTP codes and audit *trail user* activity,

while data management is carried out by LKPP according to ISO 27001 standards. However, security still requires user discipline in maintaining account confidentiality and awareness of digital procedures.

Overall, technological factors indicate that e-catalog acceptance at the Ministry of Cooperatives is driven by high perceptions of benefits, efficiency, and relative advantages. However, optimization still depends on complexity mitigation and ongoing security system maintenance.

**2    Organizational Factors**

Within the TOE framework, organizational factors include human resource readiness, top management support, and organizational scale, which influence the success of e-catalog adoption. The study found that organizational readiness at the Ministry of Cooperatives was relatively good, although it varied across units.



**Figure 3. Implementation of Technical Guidance for E-Catalog Version 6 with Resource Persons from LKPP**
Source: Researcher Observation Results at the Ministry of Cooperatives, 2025.

Most employees, especially the younger generation, possess high digital adaptability. Internal training and technical guidance (Figure 3) from LKPP and the Ministry of Cooperatives play a crucial role in strengthening technological literacy and operational skills in the e-catalog system. The training program is conducted in stages, both online and in person, encompassing hands-on practice from the planning stage to electronic transactions. This effort underscores that organizational readiness is not only technical but also cultural—namely, building a commitment to digital procurement transformation.

Top management support for e-procurement has proven to be a key driving factor. The commitment of the Ministry of Cooperatives' leadership is reflected through direct directives, coordination meetings, and the issuance of a circular requiring all work units to use e-procurement. This policy reinforces a culture of adherence to the principles of efficiency, transparency, and accountability. Such support also aligns with previous research emphasizing the role of visionary leadership in promoting the adoption of public-sector innovation.

Furthermore, organizational scale influences implementation complexity. As a large organization with multiple work units, coordination between departments becomes more challenging. However, standard operating procedures (SOPs) and e-catalog systems help streamline processes through uniform workflows and digital documentation. The main challenges lie in the need for robust technological infrastructure, greater unit integration, and enhanced user capabilities to manage high transaction volumes.

Thus, the organizational factors at the Ministry of Cooperatives demonstrate strong adaptive readiness, supported by leadership commitment, enhanced human resource capacity, and a tiered training system. However, achieving optimal effectiveness requires strengthened system integration, expanded digital literacy across all levels, and improved supporting infrastructure.

## 3 Environmental Factors

The external environment plays a major role in determining the success of e-catalog implementation. In this context, competitive pressure and regulatory support are the two most influential aspects. Competition among providers in sectoral e-catalogs is relatively limited compared to national e-catalogs. This situation creates opportunities for efficiency but also presents challenges in improving service quality. Competitive pressures encourage providers to innovate in pricing and service, while the limited number of providers can hinder healthy market dynamics.

Regulatory support is a determining factor in strengthening the legitimacy of e-catalog implementation. The Government Goods/Services Procurement Policy Agency (LKPP) Regulation Number 9 of 2021 and LKPP Head Decree Number 177 of 2024 provide a clear legal basis for e-catalog governance. These regulations emphasize the principles of fast, easy, transparent, and electronically recorded procurement. In practice, regulatory support also serves as normative pressure for government agencies to transition from manual to digital systems.

However, competitive pressures arising from e-catalog implementation are not entirely positive. Unequal competition between providers—particularly between large businesses and MSMEs—creates disparities that can hinder the participation of smaller providers in the government procurement market. This issue is further exacerbated by the limited number of providers in certain categories (Table 1), which may reduce product variation and result in suboptimal levels of competition.

**Table 3. Detail of the Number of Sectoral Catalog Providers of the Ministry of Cooperatives in 2024**

| Etalase | Number of Providers | Micro Enterprises | Small business | Medium Enterprises | Non-UKM |
|---|---|---|---|---|---|
| Food and Beverage Ministry of Cooperatives and Small and Medium Enterprises | 11 | 6 | 2 | 0 | 3 |
| Office Stationery of the Ministry of Cooperatives and Small and Medium Enterprises | 44 | 13 | 23 | 5 | 3 |
| Cleaning Services of the Ministry of Cooperatives and Small and Medium Enterprises | 30 | 3 | 17 | 4 | 6 |

| | | | | | |
|---|---|---|---|---|---|
| Security Services of the Ministry of Cooperatives and Small and Medium Enterprises | 25 | 2 | 15 | 2 | 6 |
| Ministry of Cooperatives and Small and Medium Enterprises Vehicle Service | 2 | 1 | 1 | 0 | 0 |
| Ministry of Cooperatives and Small and Medium Enterprises Official Uniform | 19 | 8 | 7 | 2 | 2 |
| Transfer Energy (*Outsourcing*) Ministry of Cooperatives and Small and Medium Enterprises | 20 | 1 | 14 | 2 | 2 |
| Service *Event Organaizer* Ministry of Cooperatives and Medium Enterprises | 54 | 17 | 24 | 4 | 9 |

Source: Results of the Review of the Annual Report Document on the Implementation of Procurement of Goods/Services of the Ministry of Cooperatives, 2024.

Environmental uncertainty in e-catalog implementation stems not only from technical factors but also from human and policy factors, requiring organizations to be adaptive through contingency plans, intensive communication, and coordination with system management agencies. The LKPP statement adds a strategic dimension by emphasizing the importance of risk management and cross-unit coordination to maintain system sustainability. In addition, pressure from society (*consumer pressure*) towards transparency and public accountability has accelerated the transformation. Open information through e-catalogs increases public trust in the integrity of government procurement. However, at the same time, the public is demanding improved quality of digital services and consistent implementation across all work units.

Thus, environmental factors provide a strong external impetus for e-catalog implementation at the Ministry of Cooperatives, both through strict regulations and high public expectations. The challenge ahead is maintaining a balance between efficiency, transparency, and provider competitiveness amidst dynamic regulatory changes.

## 4 Strategy for Procurement of Goods/Services through E-Catalog at the Ministry of Cooperatives

Based on the analysis of technological, organizational, and environmental factors, an e-catalog implementation strategy at the Ministry of Cooperatives was formulated to strengthen the effectiveness and sustainability of the electronic procurement system. The strategy encompasses four main areas:

1. Strategi SO (Strength–Opportunity): Leveraging the power of efficiency, transparency, and top management support to expand MSME provider onboarding training and implement *dashboard* monitoring real-time.
2. Strategi WO (Weakness–Opportunity): Improve HR readiness and system integration through technical training, digitalization of cross-unit processes, and user interface improvements to minimize adaptation barriers.
3. Strategi ST (Strength–Threat): Establish a risk management unit and procurement contingency plan to address regulatory dynamics and potential system disruptions.

4.  Strategi WT (Weakness–Threat): Encourage increased data security, strengthen coordination between units, and expand partnerships with potential providers to ensure stable product availability.

Overall, the procurement strategy through e-catalogs at the Ministry of Cooperatives is oriented towards two main things: internal organizational strengthening and adjustment to external dynamics efficiency, transparency, and leadership support are key assets for optimizing opportunities from affirmative action regulations for MSMEs and government digitalization policies. The sustainability of e-procurement systems depends on an organization's ability to maintain a balance between technological innovation, human resource readiness, and responsiveness to environmental changes.

## CONCLUSION

This research concludes that the implementation of e-procurement through the e-catalogue at the Ministry of Cooperatives has reached a moderate level of readiness and effectiveness, influenced by three interrelated determinants: technological, organizational, and environmental factors. From a technological perspective, the system is functional but limited in reliability and integration, with instability and poor interoperability reducing efficiency and user trust. Organizationally, while leadership support is strong, varying levels of digital literacy among procurement officials hinder optimal utilization, highlighting the need for continuous training and adaptive management. Environmentally, affirmative policies such as Presidential Instruction No. 2/2022 provide a solid foundation; however, structural fragmentation and limited MSME participation indicate that policy intent has not been fully translated into operational outcomes, necessitating strengthened inter-agency coordination and supplier empowerment.

The procurement strategy should therefore focus on strengthening internal capacity and adapting to external dynamics. Internal strengths—efficiency, transparency, and top management support—must be leveraged to seize opportunities arising from regulatory backing and MSME affirmation, while weaknesses such as uneven competencies and technical complexity should be addressed through systematic training and clearer operational guidelines. External threats—including regulatory rigidity, limited supplier diversity, and rising user expectations—must be managed through effective communication and contingency planning. Future research should employ longitudinal and comparative analyses to measure the impact of policy interventions such as digital training and infrastructure upgrades, as well as integrate quantitative performance metrics to strengthen the empirical foundation for e-procurement governance studies in Indonesia.

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