

THE IMPACT OF SUPPLIER SELECTION AND MONITORING, AS WELL AS GREEN PROCUREMENT, ON THE EFFICIENCY OF GOODS/SERVICES PROCUREMENT

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Abstract

This study examines the role of supplier selection and monitoring, as well as green public procurement, in the efficiency of public procurement in Indonesia. A review of rational choice theory in public procurement highlights the importance of individual preferences when making decisions on selecting suppliers or providers of goods/services. The research findings indicate that supplier selection and monitoring will improve the efficiency of public procurement of goods/services. Supplier selection must comply with administrative/legal qualifications and technical qualifications as regulated by LKPP Regulation No.12/2021, and may allow additional requirements based on rational considerations while still adhering to regulatory compliance. Administrative defects, such as budget inflation or mark-ups, collusion, corruption, and nepotism that occur during the selection process of goods/service providers may result in criminal sanctions for the officials involved under Law No.30/2002 if proven deviation from the procurement process guidelines as stipulated by Presidential Regulation No.12/2021. Supplier monitoring by public buyers is key to ensuring that suppliers meet contract requirements and their obligations. Supplier monitoring aims to avoid quality defects or unqualified qualifications. If there are quality defects, the provider of goods/services will be subject to criminal sanctions under Law No.30/2002 and civil sanctions as regulated in Law No.1/2004 if a dispute arises in the execution of the contract. This research contributes to the government's attention to the aspects of supplier selection and monitoring to ensure the practice of sustainable procurement of goods/services through process-based collaboration to produce environmentally friendly sustainable innovations.

Keywords: Procurement Efficiency, Supplier Selection, Supplier Monitoring, Green Procurement Practices

Background

Public procurement (PP) is evolving into a more strategic function, partly due to the necessity of fulfilling government goals (Clausen et al., 2020; Walker et al., 2008). Typically, public sector expenditure constitutes 13 to 20 percent of the gross domestic product (GDP) in many nations, totaling around US\$9.5 trillion in global annual spending (World Bank, 2020). For instance, central government expenditure in the Republic of Indonesia (RI) amounted to Rp1,170.8 trillion, representing 6.6 percent of Indonesia's GDP. As stated by the Minister of Finance of Indonesia, this reflects the government's effective performance in sustaining public welfare through various public service procurement initiatives. The procurement of goods and services in Indonesia is governed by Presidential Regulation Number 16 of 2018, which underscores the core principles of procurement: transparency, accountability, efficiency, and fair competition. Procurement refers to the process of acquiring goods, services, and works by government bodies and state-owned enterprises (SOEs) from private sector vendors (Johnson & Klassen, 2022). The Regulation of the Minister of Finance Number 223/PMK.01/2021 describes the procurement of goods/services as the activity of acquiring goods/services by Ministries/Agencies funded by the State Budget (APBN). Challenges in public procurement include conflicting priorities within the public sector (Hellberg, 2023). These priorities involve commercial factors like cost and quality, regulatory factors ensuring adherence to public procurement laws, and socio-economic factors such as employment, social inclusion, and

sustainability. There are also significant corruption risks, and although the government has introduced an e-procurement system to improve transparency and efficiency, numerous challenges still impede its implementation.

Green Public Procurement (GPP) serves as a significant policy tool for governments to tackle environmental issues by influencing supply chains and potentially promoting innovative methods that enhance environmental performance (Song et al., 2017). Numerous nations, including Indonesia, have adopted GPP. It has been incorporated into various national plans and strategies, supported by a legal framework that includes presidential regulations and guidelines from the National Public Procurement Agency (LKPP). GPP is a crucial strategy for advancing sustainability within public sector organizations. The advantages of GPP are manifold, such as achieving national environmental goals, realizing long-term financial savings, encouraging innovation, stimulating the market for eco-friendly products, services, and jobs, and creating employment opportunities (Vejaratnam et al., 2020). However, its implementation faces inconsistencies due to several challenges. According to Jones (2011), these challenges include economic and financial factors, dependence on traditional tender processes, and conflicts among stakeholders. The belief that green products are costlier than conventional ones further complicates the adoption of GPP practices. Additionally, traditional tenders often favor existing technologies (Terman & Smith, 2018), which can impede innovation and the development of new environmentally friendly solutions.

Stakeholders play a vital role in enhancing sustainability within the procurement process. Internal stakeholders, such as administrators, can advocate for green procurement initiatives, thereby increasing engagement and organizational awareness. This can lead to more investment in information gathering and training, aligning organizational values with the objectives of green procurement. External stakeholders, including local residents, NGOs, and suppliers, influence the inclusion of green criteria in procurement contracts, often shaping public opinion and regulations. Politicians act as intermediaries, affecting strategic direction and resource allocation through policies and budgets.

Engaging suppliers early is a key strategy to address these challenges. By involving suppliers at the beginning of the procurement process, public organizations can foster collaboration that drives innovation and the development of new products and services. This approach helps mitigate risks and provides opportunities to reduce environmental impacts through knowledge sharing and joint initiatives. Suppliers can contribute by identifying ways to minimize downstream environmental impacts, such as through material substitution, packaging changes, and improved recycling and reuse. Procurement fundamentally involves selecting providers of goods/services. According to Terman & Smith (2018), procurement can strategically focus on short-term bargaining power and achieving maximum cost reductions. Alternatively, procurement can recognize that effective supply chain management (SCM) requires a long-term perspective. SCM is a common practice used by organizations in the business sector to gain a competitive edge by aligning business processes from upstream to downstream. Perpres No.12/2021 (jo. Perpres No.16/2018) outlines strategies for selecting providers of goods/services, either through self-management or through providers.

The central issue revolves around financial risk. Initially, innovative green products and services may seem costly and fraught with risk, with various stakeholder groups often holding

differing views on these risks. Yu et al. (2020) highlight the benefits of involving stakeholders in decision-making processes for public sector policies that strive to balance environmental, social, and economic goals. The link between supplier companies and public procurement is essential (Delmonico et al., 2018), necessitating effective supplier management and purchasing organization. Selecting suppliers to partner with the government is a crucial decision for public buyers. Additionally, monitoring suppliers is vital for purchasing organizations (Maestrini et al., 2018; Shafiq et al., 2022), as it helps mitigate the risk of procurement delays (Dixit, 2022).

Establishing ethical standards, norms, and procurement principles is fundamental to creating procurement policies that ensure legal certainty against deviations that could harm state finances. In cases of administrative disputes, the affected party, whether goods and services providers or the public, can file an objection with the institution that issued the administrative decision. This process is governed by Law No.51/2009, which amends Law No.5/1986 concerning state administrative courts. Regarding the procurement of goods/services, civil law dictates the legal relationship between users and providers from the contract signing to its conclusion, in line with the contract's terms. Any state losses must be personally compensated, as outlined in Law No.1/2004 on State Treasury.

The procurement of goods/services is particularly vulnerable to criminal activities during both the planning and provider qualification phases. In the planning phase, potential criminal acts include budget inflation or mark-ups, directed procurement implementation, and engineered consolidation and/or splitting intended for collusion, corruption, and nepotism that harm the state. Furthermore, during the company qualification phase, procurement evaluation, contract signing, and delivery of substandard goods that do not meet requirements pose additional risks for criminal acts. Presidential Regulation No.16/2018, which reinforces procurement provisions and emphasizes efficiency and transparency, along with Law No.30/2002 amending Law No.31/1999 on the Eradication of Corruption (Tipikor), provides a legal framework for prosecuting all forms of corruption, including those related to government goods/services procurement.

This research explores how supplier selection and monitoring, along with green public procurement, contribute to the efficiency of public procurement in Indonesia. The study aims to address the following questions:

RQ1: What impact does supplier selection have on the efficiency of public procurement in Indonesia?

RQ2: How does supplier monitoring influence the efficiency of public procurement in Indonesia?

RQ3: In what way does green public procurement affect the efficiency of public procurement in Indonesia?

Literature Review Rational

Choice Theory This study is grounded in the rational choice theory framework, which posits that individuals typically opt for actions they believe will produce the most favorable outcomes when confronted with challenging situations or when deciding among various options (Elster, 1989). This perspective is widely recognized and frequently applied in modeling organizational purchasing decisions (Essien et al., 2019). Rational choice theory aims to elucidate social phenomena by positing that behavior is driven by goals (Voss, 2003). Central to this theory is the concept of methodological individualism, which necessitates that both micro and macro variables be interpreted through the consistency of legitimate individual actions. This is in line with the idea of corporate actors in organizational analysis. Essentially, actors can be groups, nations, organizations, or individuals representing these entities. It is important to examine the activities of corporate actors, their objectives, and internal operations through the actions of participating individuals, their interactions, and the collective decisions that emerge from their preferences. When applied to supplier selection and monitoring in government procurement of goods/services, rational choice theory emphasizes individual preferences in decision-making. Individuals involved in organizational roles make decisions concerning daily activities within their organizations. Supplier selection is one of the most critical and risky decisions made by purchasing organizations during the procurement process. These decisions are characterized by rationality, where rational actions are linked to anticipated outcomes. This study proposes that the perceived advantages of the chosen supplier will provide buyers with the necessary goods and services, contingent on the sound choices made by procurement managers to select the best supplier and ensure effective monitoring. When public buyers opt to select and monitor potential suppliers, they are bound by the legal framework and regulations governing procurement procedures. Rational choice theory is anticipated to offer a theoretical understanding of why and how procurement practitioners select suppliers when acquiring goods, services, and works. Rational choice theory can be applied to analyze government procurement of goods/services by concentrating on decisions made by individuals or groups within the context of rational interests and choices. In this context, the National Public Procurement Agency (LKPP) issued Regulation No. 12/2021, which outlines the qualification requirements for suppliers of government goods/services—specifically, administrative/legal qualifications and technical qualifications. Both qualifications are mandatory requirements that suppliers of goods and services must meet. If administrative defects are discovered after being appointed as a supplier, criminal sanctions may be imposed. The decision to select a supplier is not limited to mandatory requirements. Regulation LKPP No. 12/2021 states that additional requirements can be imposed based on a review or justification from a competent authority in the relevant field, while still adhering to procurement principles and ethics. This enables users of goods/services or the government to make rational decisions by weighing the costs and benefits among several alternative options, while still complying with regulations.

Efficiency in Public Goods/Services Procurement

Government procurement of goods and services is increasingly viewed as more than a mere operational task. It is now acknowledged as a strategic instrument to achieve societal goals, such as supporting local SMEs, fostering sustainability (Park-Lee, 2020), and encouraging innovation (Clausen et al., 2020). Karttunen et al. (2024) propose that public procurement should focus on effectiveness and performance rather than costs and inputs like labor hours or materials. Furthermore, Mulabdic & Rotunno (2022) contend that selling performance outcomes is distinct from selling traditional products, which may necessitate suppliers to reconsider their business models. These specific performance attributes as trade objects also

challenge the current, often limited, perspective on necessary capabilities. This study seeks to investigate how supplier selection and monitoring, along with green public procurement, can improve the efficiency of government procurement of goods/services. Public procurement efficiency involves the effective management of expenditures, which facilitates the prompt delivery of public goods and services, enabling the government to fulfill its public responsibilities (Changalima et al., 2023). This efficiency also includes cost reduction as a measure of effective public procurement. The efficiency of procurement processes for goods/services is crucial for cost management and overall organizational success. According to the Regulation of the Minister for State-Owned Enterprises (SOE Minister Regulation) Number 08/MBU/12/2019, one of the objectives of goods and services procurement is to produce items of the right quality, quantity, timing, cost, allocation, and providers to support the creation of added value. According to Schapper et al. (2006), the public procurement system is marked by a persistent conflict between the public's demand for transparency and accountability and the necessity for efficient and effective resource management. Presidential Regulation No. 12/2021, Article 27(4), mandates that procurement contracts for goods and services must follow the principles of efficiency, effectiveness, and adherence to current laws and regulations. Suyono (2020:14) defines efficiency as conducting the procurement of goods or services with the minimum funds and resources needed to meet the required quality and targets within the designated timeframe, or utilizing the allocated funds to achieve the best possible quality and objectives. Effectiveness, as per Suyono (2020:14), implies that the procurement of goods and services should align with the needs and goals and deliver maximum benefits. An increasing amount of research is examining the efficiency challenges in public procurement. Mélon & Spruk (2020) suggest that e-procurement can enhance efficiency. They argue that e-procurement can lead to significant improvements in institutional quality, such as better corruption control and reinforcement of the rule of law, which can enhance public sector efficiency. Indonesia has adopted an e-marketplace for electronic procurement systems to fulfill the government's requirements for goods and services. However, electronic procurement has not succeeded in eliminating financial crime cases. Data from Indonesia Procurement Watch (IPW) indicates that 70 percent of corruption cases in Indonesia involve irregularities in the procurement of goods/services. Shafiq et al. (2022) offer a different viewpoint, highlighting the importance of supplier relationships. They identify a strong link between supplier monitoring and supplier performance, including the delivery of goods, improved lead times, achievement of procurement goals, and buyer satisfaction. Consequently, public procurement should aim to ensure effective supplier management (Akamp & Müller, 2013), as the success of goods/services procurement relies on the quality of inputs (Laari et al., 2023). The continuously changing role and new demands of public procurement in a strategic direction (Loijas et al., 2024) have placed evolutionary pressure on the capabilities of public procurement and its suppliers.

Supplier Selection

Suppliers play a vital role in determining the quality, adaptability, and cost-effectiveness of products, making them essential to the buyer company's success (Essien et al., 2019). To fully leverage the supply market, buyer companies need to keep a close watch on their suppliers. This involves planning, executing, developing, and overseeing the company's interactions with both current and potential suppliers. The process of selecting suppliers aims to reduce the risks associated with potential supply relationships and to identify those suppliers that best align with the manufacturer's needs. As noted by (Mulabdic & Rotunno, 2022), the effectiveness of

the selection process is heavily reliant on having appropriate standards. Beyond fundamental criteria like delivery performance, cost, and quality, it is crucial to apply specifications tailored to various procurement conditions (Głodziński & Szymborski, 2024; Walker et al., 2008). Numerous studies have explored the link between supplier selection activities and the efficiency of procuring goods/services, consistently finding a positive impact (Changalima et al., 2023, 2024). Supplier selection is governed by Presidential Regulation No. 16/2018, which serves as the primary legal framework for government procurement of goods/services. This regulation outlines the procedures and mechanisms for selecting providers, including methods such as tenders, e-purchasing, and direct appointments. A tender is a method for choosing providers of goods, construction, or other services. Many countries are mandated to conduct public tenders transparently to prevent corruption and ensure equal opportunities for all competitors in public procurement (Mehrbood et al., 2018). Tenders enable suppliers to identify business opportunities (Adesanya et al., 2020) and are viewed as a strategic tool to enhance company competitiveness, while also helping governments uphold the principle of value for money.

The concept of fair competition is central to tendering, as outlined in Law No. 5/1999, which was updated by Law No. 6/2023, addressing the Prohibition of Monopolistic Practices and Unfair Business Competition. Despite this, the Business Competition Supervisory Commission (KPPU), established under Law No. 5/1999, has identified numerous instances of collusion in government procurement processes. Article 22 of Law No. 5/1999, as clarified by Constitutional Court Decision No. 85/PUU-XIV/2016, prohibits collusion in tenders with other parties or those connected to other business entities. The guidelines for Article 22 of Law No. 5/1999 categorize tender collusion into three types:

- 1) Horizontal collusion, which involves cooperation among business actors to secure a tender.
- 2) Vertical collusion, which occurs between business actors and the tender committee or users of goods/services.
- 3) A combination of vertical and horizontal collusion, involving multiple business actors along with the tender committee or users of goods/services.

According to Khorana et al. (2024), transparency is crucial in tender processes. Public procurement transparency and accountability can be enhanced through electronic procurement systems, or e-procurement (Mélou & Spruk, 2020). The OECD (2020) suggests that e-procurement can bolster public confidence in the government, promote fair competition among suppliers, and provide a basis for assessing and refining procurement practices. E-procurement ensures that all aspects of the procurement process, including the selection and oversight of business actors or suppliers, are digitally documented.

Supplier monitor

Supplier monitoring is a crucial process that allows organizations to pinpoint and manage suppliers that incur high costs. By keeping track of suppliers, purchasing entities can enhance procurement efficiency by managing expenses and spotting irregularities in supplier interactions. This oversight aids in cutting procurement costs and boosting the overall efficiency of public procurement. For public buyers, monitoring suppliers is essential to ensure that they fulfill their contractual duties and obligations. This process helps detect issues such as delays, excessive costs, and quality problems that can impact procurement performance. By

addressing these issues, the purchasing organization's performance can be enhanced. Moreover, there is a strong and positive link between supplier monitoring and procurement performance, particularly in terms of cost savings, delivery timelines, and buyer satisfaction.

Public procurement is typically divided into three stages: planning, tendering, and contract monitoring (Guarnieri & Gomes, 2019). From the supplier's viewpoint, similar stages exist, albeit with slightly different terminology. The value-based selling phase is described with the terms: planning, implementation, and leverage (Loijas et al., 2024). During the contract period, monitoring, data collection, and analysis are vital components of the process, highlighting the need for essential capabilities within public organizations.

Green procurement practice

Companies worldwide are increasingly adopting green procurement practices to boost sustainability and operational efficiency. These environmentally conscious procurement methods enhance operational performance by minimizing environmental pollution and optimizing resource use. Such practices encompass activities like reducing resource waste, recycling materials, and substituting raw materials, which help control pollution and lower input energy costs. Consequently, this enhances a company's financial performance and operational efficiency by ensuring that purchased products or raw materials do not harm the environment. Moreover, green procurement can improve resource utilization rates, cut operational costs, and enhance operational efficiency, ultimately leading to improved overall company performance.

While sustainability and sustainable procurement are interconnected, there is a distinct difference between the two. According to (Song et al., 2017), procurement plays a crucial role in applying the sustainability concept within the business environment. This is primarily because the procurement process initiates the flow of materials and services within a company. Awareness of sustainable procurement offers four key benefits: 1) it reduces the impact of goods, services, and work obtained throughout the entire supply chain life cycle; 2) it decreases funds used through improved purchasing, product reuse, and recycling; 3) it supports and fosters a growing demand for sustainable ecosystems and procurement processes; and 4) it enhances good procurement practices and procurement awareness.

Research by (Meqdadi et al., 2020) indicates that companies must improve not only their own sustainability performance or that of their first-tier suppliers but also their broader supply networks, as sustainability issues often originate from sub-tier suppliers. By managing supplier relationships, businesses can enhance sustainability (Adesanya et al., 2020). Improving sustainability performance through supplier relationship management can be achieved in several ways:

1. **Supplier Performance Management:** This involves measuring, analyzing, and reporting supplier performance to gain greater advantages and drive continuous improvement. A crucial aspect of this process is providing evaluative feedback to suppliers that clarifies buyer expectations and guides suppliers toward further improvements.
2. **Incorporating Sustainability:** Relationships with suppliers can influence supplier behavior and organizational sustainability practices by collaborating with suppliers on

environmentally friendly activities and encouraging them to undertake environmental and social programs.

3. **Supplier Development:** Stronger supplier development strategies are implemented in the supply chain, including training and incentives, such as offering free technical advice, support, and training on best practices through specialist field technicians, access to new technology, and providing training and workshops.
4. **Integration of Sustainability Initiatives:** This includes rigorous supplier selection processes, prioritizing sustainability efforts with suppliers in high-risk areas, and collaborating with third-party organizations in supplier evaluation and supplier development.

Research Method

We adopted a descriptive methodology to address research questions concerning the impact of supplier selection and oversight, along with eco-friendly procurement practices, on improving the efficiency of government procurement of goods and services. This approach focuses on gaining a comprehensive understanding of particular contexts and phenomena. Researchers employ the descriptive method to elucidate and examine the qualitative aspects of a subject.

Results and Discussion

More generally, (Flynn & Davis, 2017) highlight that in the context of the public sector, it is important for suppliers to possess relational and procedural capabilities in order to successfully participate in public procurement. On the other hand, (Changalima et al., 2024) and (Głodziński & Szyborski, 2024) emphasize that public buyers must have the ability to engage with suppliers and establish relationships from the early stages of the procurement process to attract the best suppliers into the tendering process. They also stress that public buyers must ensure the fairness of the process from the supplier's perspective.

The objectives of public procurement of goods/services, as regulated in Presidential Regulation No. 16/2018, are to provide the greatest possible fulfillment of benefit value (value for money) and to contribute to increasing the use of domestic products, enhancing the role of Micro, Small, and Medium Enterprises, as well as sustainable development. Environmentally friendly procurement of goods/services refers to Ministry of Environment and Forestry Regulation No. 5/2019 and Circular Letter from the Head of LKPP No. 16/2020 on Green Products/Green Industry Products for Use in Sustainable Government Procurement of Goods/Services, which regulate the procedures for environmentally friendly procurement of goods/services.

Sustainable or green procurement practices will increase procurement efficiency because they involve various activities such as reducing resource waste, recycling resources, and substituting raw materials, which help control pollution and reduce input energy costs (Terman & Smith, 2018). Green public procurement offers a powerful policy instrument for governments to shape the supply chain from upstream to downstream, starting from the selection of suppliers to the monitoring of suppliers.

Incorporating suppliers early in the procurement process is a crucial approach to tackling the challenges of sustainable procurement. The government can promote collaboration with suppliers that focuses on processes, fostering innovation and the creation of new products and services. This collaboration can mitigate risks and create opportunities to reduce environmental

impact through joint innovation between suppliers and users, including the government. Additionally, monitoring suppliers is essential for users or the government, as it helps minimize procurement delays and enhances the efficiency of acquiring goods and services (Dixit, 2022).

The evolving role and new strategic demands of public procurement have exerted evolutionary pressures on the capabilities of both public procurement and its suppliers (Loijas, 2017). Consequently, monitoring suppliers influences their performance, leading to shorter lead times, the achievement of procurement goals, and increased buyer satisfaction. Therefore, public procurement should aim to manage suppliers effectively, as the success of procuring goods and services relies on the quality of inputs (Akamp & Muller, 2013). Monitoring strategies affect the spread of sustainability at the dyadic level, while mentoring strategies for suppliers are essential for promoting sustainability throughout the supply network.

Conclusion

In Indonesia, the acquisition of goods and services is governed by Presidential Regulation No. 16/2018, as amended by Presidential Regulation No. 12/2021. This regulation underscores the crucial role of procurement in enhancing public services and promoting both national and regional economic growth by optimizing value for money. These objectives are embodied in green procurement practices, which provide policy tools for the government to achieve value for money through eco-friendly innovation. Achieving sustainable procurement goals requires the involvement of both internal and external stakeholders, with external stakeholders being suppliers.

Engaging suppliers early is a crucial approach to overcoming challenges in implementing green procurement practices. Suppliers can help by finding ways to minimize environmental impacts downstream, such as through material substitution, packaging changes, and increased recycling and reuse. Therefore, selecting the right suppliers will improve the efficiency of procuring goods and services. The government can encourage process-based collaboration by involving suppliers early in the procurement process, fostering innovation and the development of goods and services.

Beyond selecting suppliers, the government must also ensure the quality of goods and services and mitigate potential risks by monitoring suppliers. Supplier monitoring can enhance procurement efficiency by controlling costs and identifying issues in supplier engagement, such as delays, high costs, and quality defects. Monitoring by public buyers is essential to ensure suppliers meet their contractual obligations.

This research aids the government by emphasizing the significance of supplier selection and monitoring to ensure sustainable procurement of goods and services through process-based collaboration for environmentally friendly sustainable innovation. Supplier selection and monitoring can provide the government with confidence that providers are committed to delivering eco-friendly products or services, managing costs, and minimizing risks of issues like delays and quality defects.

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