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# Relationship between public procurement governance and the performance of government agencies in Indonesia

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**ABSTRACT**

The Government Goods/Services Procurement Policy Institute (LKPP) established a policy for measuring the procurement governance index (ITKP) for Government Agencies in Indonesia as one of the tools to achieve a "Clean and Accountable Bureaucracy." This study explores the relationship and significance of ITKP indicators with government performance, as measured by the Government Agency Performance Accountability Report (AKIP). This study uses a quantitative method with secondary data obtained from LKPP and the Ministry of PANRB for the 2020-2023 period. The research sample included 72 ministries and 402 local governments. The results showed that there was a positive and significant relationship between procurement governance and the improvement of the performance of Indonesian government agencies, both in Ministry of Ministries and Agencies, Regional Governments, and the entire sample. The findings can be used as feedback and evaluation for future policy improvements, including the use of the procurement system, the qualifications and competencies of PBJ human resources, as well as the maturity level of UKPBJ.

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## INTRODUCTION

Indonesia experienced an economic crisis in 1997, one of which was due to bad governance both in the government and the private sector so that governance was improved so that the economic crisis recovered (Sunarsip, 2001). Good governance is now recognized as playing a crucial role in achieving sustainable socio-economic development of a country (Inekwe et al., 2021; Morita & Zaelke, 2007; Ullah et al., 2021). Good governance in government is implemented as an effort to increase accountability for performance and governance to provide accountability for its obligations to the community. This is in accordance with agency theory where the government is an agent for the community (principal). Government reform is a step to improve performance and gain full trust from the public, so that a systematic, integrated, and comprehensive governance is created (Grossi & Argento, 2022; Hartanto et al., 2021; Sedarmayanti, 2009). The government through the Ministry of State Apparatus Empowerment and Bureaucratic Reform (KemenPANRB) has set the "Grand Design of Bureaucratic Reform (RB) 2010-2025" as an effort to improve the bureaucracy towards a clean, accountable, and reliable government. The goal is to provide fast, precise, professional, and free public services from corruption, collusion, and nepotism.

Based on the evaluation of the Ministry of PANRB in 2020, strengthening procurement governance is one of the main focuses in supporting good governance. The Government Goods/Services Procurement Policy Institute (LKPP) then established a policy for measuring the Procurement Governance Index (ITKP) for Government Agencies in Indonesia as one of the tools to achieve a "Clean and Accountable Bureaucracy" where the results of the ITKP will be measured on each RB target. Good governance in public procurement is very important because its percentage of Gross Domestic Product (GDP) is quite large, which is 8-14% on average, to support economic growth, infrastructure development and budget efficiency of state institutions. The state budget allocation for the procurement of goods and services in the public sector is also significant, around 50% of the total state budget, and continues to increase from 2019-2022.

Previous research found inefficiencies in the Procurement of Goods and Services (PBJ) process, which affected procurement performance (Soleman, 2013). The Corruption Eradication Commission (KPK) and Indonesia Corruption Watch (ICW) identified procurement of goods and services as the second highest cause of corruption cases in Indonesia from 2004 to 2023, with 339 cases directly linked to procurement and many

gratuity/bribery cases (989) rooted in procurement problems. Poor procurement governance can lead to corruption, inefficiency, and injustice, undermining public trust and the integrity of democratic institutions. Effective procurement governance is therefore a strategic priority for improving governance and government performance. Countries with robust procurement systems tend to exhibit lower corruption levels and stronger economic outcomes. Recognizing this, the Indonesian government has implemented measures to improve procurement performance, such as the adoption of e-Procurement systems, which studies have shown to enhance governance, transparency, and accountability while reducing inefficiencies and corruption in public procurement processes.

The National Public Procurement Agency (LKPP) has established ITKP components to enhance procurement governance, incorporating tools like e-Tendering, e-Purchasing, and e-Contracts, alongside evaluating PBJ human resources and the maturity level of UKPBJ. These components align with Harold Leavitt's Golden Triangle theory, emphasizing the integration of processes, people, and technology in reform management. Although ITKP policy evaluations over the past four years have shown positive trends, the results have yet to reach the "good" category, signaling the need for empirical evaluation to optimize its impact on government performance. This study explores the relationship and significance of ITKP indicators with government performance, as measured by the Government Agency Performance Accountability Report (AKIP). The AKIP report serves as a benchmark for assessing the success and accountability of government agencies in achieving their goals and objectives, reflecting their alignment with strategic visions and policies.

Previous research on which this research is based includes the work of Shakya (2015), Lewis-Faupel et al. (2016), Nurlukman (2018), Jeptoo & Kabare (2017), Heriawati (2018), Kartika (2022), and Aini et al. (2023) which prove that technological policy innovations, especially e-Procurement, have a positive impact on procurement performance and governance. Shakya (2015) focused on the e-Government Procurement (e-GP) system to improve transparency, accountability, efficiency, effectiveness, and corruption control in public procurement. Heriawati (2018) found that e-Procurement improves public procurement governance, quality of goods/services, and reduces corruption. Kartika (2022) and Nurlukman (2018) show that there is a correlation between e-Procurement and the reduction of procurement corruption, but it is still not optimal and requires better integration and collaboration between procurement policies, stakeholders, and Procurement Service Units (ULP). Factors such as leadership, human resource quality, planning, policy, system integration, and infrastructure affect the implementation of e-Procurement. Kartika (2022) shows that the quality of human resources in procurement greatly affects the procurement process and output as well as the success of e-Procurement. In India, the implementation of e-Procurement has not been optimal in reducing corruption due to low competence and professionalism of human resources and political interference. Akbar et al. (2022) showed that the maturity level of UKPBJ can be improved with Strategic Model Change Management, including strategies to improve professionalism and fulfill human resource competencies.

This research is a new contribution because so far there has been no study related to ITKP policies on government performance which is seen not only from one aspect, namely technology (procurement system), but also from the aspects of people and process (institutional aspects, administrative arrangements, and human resources). This study focuses on describing the relationship between the utilization of the procurement system, the qualifications and competencies of PBJ human resources, as well as the maturity level of UKPBJ in its contribution to the performance of Government Agencies in Indonesia. The scope of the research using the ITKP value includes the use of the procurement system, qualifications and competencies of PBJ human resources, the maturity level of UKPBJ and performance values based on the 2020-2023 AKIP Report on Government Agencies, namely Ministries and Local Governments in Indonesia.

The research contributes to the field by providing a comprehensive analysis of the ITKP (Government Procurement Performance Indicators) policies and their influence on government performance in Indonesia, addressing a significant gap in existing studies. Unlike previous research that focuses solely on the technological aspect (procurement systems), this study incorporates a multidimensional approach, examining the interplay between technology, human resources, and institutional processes. It offers new insights into how the utilization of procurement systems, qualifications and competencies of PBJ (Procurement of Goods/Services) human resources, and the maturity level of UKPBJ (Procurement Service Units) collectively impact the performance of government agencies. The research's unique contribution lies in its use of the ITKP framework to analyze government performance through a combination of technological, administrative, and human resource aspects, utilizing data from the 2020-2023 AKIP (Government Agency Performance Accountability Report). This approach not only broadens the understanding of procurement's role in governance but also provides actionable recommendations for improving institutional performance at both the ministerial and local government levels.

## METHOD

This study used a quantitative method with secondary data data obtained from LKPP and the Ministry of PANRB for the 2020-2023 period. The research sample included 72 ministries and 402 local governments.

The dependent variable was the value of accountability and performance of Government Agencies as measured through the AKIP Report. The independent variable of the study was the ITKP value, including the utilization of the procurement system, the qualifications and competencies of PBJ human resources, and the maturity level of UKPBJ. The data analysis method used was a panel regression model with a fixed effect approach and a gradual estimation is carried out as follows.

**Measurement of Procurement Governance Relations to the Performance of Indonesian Government Agencies**

Initial measurements were made from the total ITKP value to the performance value of ministries/agencies and local governments in 2020-2023.

**Measurement of the Relationship "Utilization of Procurement Systems, Qualifications and Competencies of PBJ Human Resources and UKPBJ Maturity Level" as an Indicator of Procurement Governance on the Performance of Indonesian Government Agencies**

The next stage, measurement is carried out by examining ITKP indicators, which include the use of the procurement system, qualifications and competencies of PBJ human resources and the maturity level of UKPBJ to the performance value of the Ministry / L and the Regional Government from the AKIP Report. In estimating the relationship between ITKP and government performance in this study, an equation is used to refer to the ITKP policy formula which is seen as a relationship to the performance of Government Agencies in the following form:

$$Performance_{it} = \alpha_0 + \beta_1 ITKP_{it} + \varepsilon_{it} \quad (1)$$

$$Performance_{it} = \alpha_0 + \beta_1 procsys_{it} + \beta_2 human_{it} + \beta_3 maturity_{it} + U_{it} \quad (2)$$

**Equation (1)** shows that as a $\mathbf{Performance_{it}}$ dependent variable (AKIP value) represents the performance results in ministries and local governments (i) and years (t); **α** as a constant; **β** as a regression coefficient; **ITKPi,t** shows an independent variable, namely the total value of all ITKP indicators in it; **i** shows cross section (K/L and Local Government); **t** is the time series (2020-2023); and **Ɛ** is **ɛrror. Equation (2)** shows that the dependent variable is the AKIP value which $\mathbf{Performance_{it}}$represents the value of accountability and performance in ministries and local governments (i) and year (t); **α** as a constant; **β** as a regression coefficient. There are 3 (three) independent variables, namely the procurement system, namely the $\mathbf{ProcSys_{it}}$ value of the utilization of the procurement system in the index unit as determined by the LKPP; $\mathbf{Human_{it}}$are the qualifications and competencies of human resources, namely the qualification and competency values of UKPBJ human resources as determined by LKPP**;** $\mathbf{Maturity_{it}}$ is the maturity level, namely the value of the maturity level of UKPBJ as determined by the LKPP; **i** shows cross section (K/L and Local Government); **t** is the time series (2020-2023); and **Ɛ** is **ɛrror**.

The indicators in this independent variable are in line with the results of previous research which revealed that in addition to the use of the procurement system, human resources and maturity level are also important factors that influence in determining performance or quality or achievement of value for money.

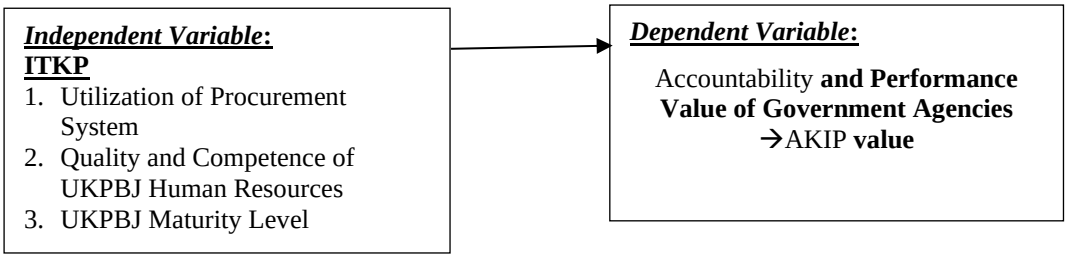


**Figure 1.** Research Design

**In Depth Analysis Interview**

This study involved in-depth analysis through interviews with the Directorate of Transformation Planning, Monitoring, and Evaluation of Procurement (PMTPE) at LKPP to validate findings and understand the real conditions of ITKP implementation across government agencies. The interviews explored the policy's background, objectives to elevate procurement practices, policy developments, and lessons learned from its implementation during 2020–2023. Key obstacles identified include administrative inefficiencies reflected in low budget realization (around 40%), insufficient human resource capacity in procurement roles (JabFung),

and the limited maturity level framework, which currently uses three levels with nine variables, despite theoretical recommendations for five levels. The maturity assessments are internally conducted by LKPP. Future ITKP policies aim to strengthen indicators in line with OECD standards, focusing on optimizing the procurement system, enhancing the qualifications and competencies of PBJ human resources, and refining UKPBJ maturity levels. Additionally, evaluations of ITKP implementation in ministries and local governments, along with expert consultations, emphasize the need to refine ITKP indicators and improve calculation methodologies for better policy outcomes.

**Table 1.** Summary of Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| performance | 946 | 4.073 | .893 | 1 | 7 |
| ITKP | 946 | 59.479 | 16.906 | 17 | 99.09 |
| procsys | 946 | 21.074 | 4.628 | 5.1 | 30 |
| human | 946 | 10.823 | 6.637 | .52 | 30 |
| maturity | 946 | 27.582 | 12.236 | 1.6 | 40 |

*Source: Data processed*

The average score of AKIP shows a consistent increase from 2020 to 2023. The largest increase occurred in 2023 reaching 4.26. This shows that there is a significant improvement in the performance accountability of Government Agencies, which reflects effective policy implementation and reforms. The ITKP also shows a significant increase every year from 31.82 in 2020 to 63.36 in 2023. The respective ITKP indicators show that the utilization of the procurement system still requires special attention to achieve stability and consistent improvement. In 2020, it is still not included in the ITKP assessment but there is a separate evaluation. In 2021, this value reached 22.20, then decreased to 18.33 in 2022, and increased again to 21.40 in 2023. The score for HR Qualifications and Competencies decreased significantly in 2021 (8.06) from 15.91 in 2020. However, there was an increase in 2022 (9.94) and further in 2023 (12.96) which shows that despite challenges in human resource development, there have been efforts to improve HR qualifications and competencies in recent years. The UKPBJ Maturity Level has a consistent increase, especially in 2023 with a score of 30.95, indicating that UKPBJ is increasingly mature and able to implement best practices in PBJ.

Overall, the data shows positive trends in various aspects of governance and performance of government agencies in Indonesia from 2020 to 2023. The consistent improvement in the AKIP, ITKP, and Maturity Level of UKPBJ reflects effective efforts in reform and improvement of procurement governance and performance accountability yielding tangible results. Despite some challenges, such as a temporary decline in the utilization of the procurement system and human resource qualifications, the gradual improvement in the last two years shows that the government continues to strive to improve indicators of human resource competency development and the optimal utilization of procurement systems in procurement. Improvements and ongoing efforts on areas that still need improvement will be critical to achieving better governance in the medium and long term.

## RESULTS AND DISCUSSION

### ITKP Relationship to Government Performance in AKIP Score Based on All Government Agencies and Sub-Sample of K/L and Local Government Models

Panel data analysis uses a fixed effect model to review the relationship between the ITKP as a whole of Government Agencies and the performance of Government Agencies in Indonesia.

**Table 2.** ITKP Relationship with AKIP

| Independent Variables | Dependent Variable: Accountability Value of Government Agency Performance | | |
|---|---|---|---|
| | K/L | Government | Full Sample |
| Procurement Governance Index (ITKP) | 0.0072** | 0.0142*** | 0.0129*** |
| | (0.0033) | (0.0029) | (0.0025) |
| | R2 = 0.0196 | R2 = 0.0256 | R2 = 0.0231 |
| | N = 130 | N = 816 | N = 946 |

Remarks: The dependent variable is Performance (**Performance, t**) and the independent variable is the Procurement Governance Index (**ITKPi, t**). The ***, **, *, signifies statistical significance of 1%, 5%, and 10%, respectively. Parentheses are the standard error.

Table 2 shows the number of observations (n) from the first panel (1) for the ITKP relationship in K/L on the performance of Government Agencies, the second panel (2) for the ITKP relationship in the Regional Government against the performance of Government Agencies and then the third panel (3) for the ITKP relationship in K/L and the Regional Government on the performance of Government Agencies.

In the first panel (1) and the second panel (2), it was found **that the ITKP** in K/L had a positive and significant relationship (β1ITKPi,t = 0.007) at a significance level of 5% (p<0.05) while in the Regional Government it had a positive and significant relationship with the performance of Government Agencies (β1ITKPi,t = 0.014) at a significance level of 1% (p<0.01). It can be seen that **the ITKP relationship** between Ministries and Regional Governments has contributed to the performance of Government Agencies. In the third panel (3), the independent variable coefficient **of ITKP** showed positive and significant results on performance (β1ITKPi,t = 0.013) at a significance level of 1% (p<0.01). A coefficient value of 0.013 indicates that every increase of one point in the ITKP is associated with an increase of 0.013 in the performance of Government Agencies for the entire sample (K/L and Local Government). Overall, **ITKP** has a positive and significant relationship which is reflected in the AKIP score both for ministries/agencies, local governments, and the overall sample. Although the coefficient is relatively small, significant values show that better procurement governance contributes to improving the performance of Government Agencies.

**Relationship between Procurement System Utilization, Human Resources Qualifications and Competencies, and UKPBJ Maturity Level to Government Performance in AKIP Score Based on All Government Agencies and Sub-Samples of K/L and Local Government Models**

Panel data analysis uses a fixed effect model to review the relationship between Procurement System Utilization, Human Resources Qualifications and Competencies, as well as the Maturity Level of UKPBJ as a whole of Government Agencies as well as K/L and Local Governments on the performance of Government Agencies in Indonesia.

The table below shows the number of observations (n) from the first panel (1) is the result of the regression of the relationship between **the PROCSYS**, **HUMAN** and **MATURITY indicators** in the K/L sub-sample on the performance of Government Agencies, the second panel (2) on the sub-sample of Local Governments on the performance of Government Agencies and the third panel (3) the entire sample on the performance of Government Agencies.

**Table 2.** Relationship between Procurement System Utilization, Human Resources Qualifications and Competencies, and UKPBJ Maturity Level Towards AKIP Based on All Government Agencies and Sub-Samples of K/L and Local Government Models

| **Independent Variables** | **Dependent Variable: Accountability Value of Government Agency Performance** | | |
|---|---|---|---|
| | **K/L** | **Government** | **Full Sample** |
| **Utilization of Procurement System (*PROCSYS)*** | -0.0052<br>(0.0119) | -0.0005<br>(0.0089) | -0.0023<br>(0.0077) |
| **Human Resources Qualifications and Competencies (*HUMAN)*** | -0.0040<br>(0.0116) | 0.0380***<br>(0.0088) | 0.0317***<br>(0.0077) |
| **UKPBJ Maturity Level (*MATURITY)*** | 0.0150**<br>(0.0055) | 0.0071<br>(0.102) | 0.0082**<br>(0.0038) |
| | R2 = 0.0236 | R2 = 0.0139 | R2 = 0.0345 |
| | N = 130 | N = 816 | N = 946 |

Description: The dependent variable is Performance (Performance, t), the independent variable is the Procurement System (PROCSYSi, t), Human Resources Qualifications and Competencies (HUMANi, t), and UKPBJ Maturity Level (MATURITYi, t). The ***, **, *, signifies statistical significance of 1%, 5%, and 10%, respectively. Parentheses are the standard error.

The first panel (1) shows that only **the MATURITY indicator** has a positive and significant relationship with the performance of Government Agencies (β3MATURITYi,t = 0.015) at a significance level of 5%. Meanwhile, in the local government as in the second panel (2), **HUMAN** has a positive and significant relationship with the performance of Government Agencies (β2HUMANi,t = 0.038) at a significance level of 1% while **MATURITY** has a positive but not significant relationship. However, the variable coefficient **of PROCSYS** in both Ministries and Regional Governments has a negative but not significant relationship with the performance of the Agency in the year of measurement.

In the third panel (3) of the K/L and Local Government samples, **HUMAN** had a positive and significant relationship with the performance of Government Agencies (β2HUMANi,t = 0.0317) at a significance level of 1% and **MATURITY** had a positive and significant relationship with the performance of Government

Agencies (β3MATURITYi,t = 0.082) at a significance level of 5%. **HUMAN** has a significant positive relationship, especially in the local government and the overall sample, showing that improving human resource qualifications and competencies is very important for improving performance. **MATURITY** showed a significant positive relationship with the performance of Government Agencies in K/L and the overall sample, but not significantly in the local government, indicating that the maturity of UKPBJ had more relations with central agencies than with regions.

**PROCSYS** did not show a significant relationship to the performance of Government Agencies in all models in the measurement year. This may be due to the implementation of a system that is not optimal or not supported by an increase in competence and a good organizational structure. In general, this supports the research of Kartika (2022) and Nurlukman (2018) who revealed that the use of the b- Procurement is not optimal, but human resources and business process improvement, in this case the level of organizational maturity, are influential in improving organizational performance. The findings from the LKPP show that although b- Procurement can improve performance and procurement governance, its implementation is not optimal can reduce its positive impact. PBJ will increase along with improvements in governance (Kenangah et al., 2022). The human resources aspect, especially in the local government, shows a positive and significant influence because of the low gap between the effective formation and the filling of Functional Positions. Strengthening the maturity level will greatly support the next step from procurement to sustainability procurement.

Overall, the implementation of the Golden Triangle theory (technology, process, people) can achieve success if there is good synergy and overall process improvement. Nurlukman (2018) also recommends strengthening provisions, the need to improve the organizational structure by reducing coordination misses and emphasizing the authority of ULP then improving the procurement HR recruitment system based on qualifications and competencies that have a good understanding of the procurement process. This study also emphasizes the importance of strengthening policies, improving organizational structures, and increasing human resource competencies to improve procurement performance and governance. The commitment of agency leaders and policies that "Focus" on root causes and "Priority" on improvements according to the characteristics and challenges faced still needs to be strengthened.

## CONCLUSION

This study underscores the critical role of good public procurement governance in enhancing efficiency, transparency, accountability, and reducing corruption, contributing to better government performance and sustainable economic growth. Utilizing the Golden Triangle theory, the research evaluates ITKP components—procurement system utilization, PBJ human resource competencies, and UKPBJ maturity levels—and their impact on the performance of Government Agencies. Findings reveal significant positive relationships between HR competencies and maturity levels with government performance, while procurement system utilization showed limited impact, highlighting areas for improvement. The study recommends aligning ITKP policies with international standards, such as OECD guidelines, strengthening HR training and certification, optimizing procurement systems, and improving oversight mechanisms. These measures aim to ensure cleaner and more accountable governance while aligning with Indonesia's Vision 2045. Limited by secondary data, the study suggests future research incorporate qualitative approaches, such as case studies and surveys, to provide deeper insights for enhancing procurement governance and government agency performance.

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