

Determinants of Government Performance Accountability Moderated by Electronic-Based Government System (Study on Construction Services Development Board)

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Abstract

This study analyzes the determinants of Government Performance Accountability, with the Electronic-Based Government System (SPBE) serving as a moderating variable within the Construction Services Development Board of the Ministry of Public Works. Amid the ongoing push toward digital transformation in Indonesia's public sector, understanding how such systems influence accountability outcomes has become increasingly relevant to strengthening governance in non-structural public institutions. The factors examined in this study are grounded in Agency Theory and Institutional Theory and were formulated by considering the findings of relevant previous studies. This study employs a quantitative research approach using primary data. Data were collected through an online questionnaire distributed to 131 respondents at the Construction Services Development Board of the Ministry of Public Works and subsequently analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that governance, regulations and policies, human resources, leadership commitment, performance-based budgeting, and the Government Internal Control System (SPIP) each have a positive and significant effect on Government Performance Accountability. Furthermore, the findings reveal that the Electronic-Based Government System (SPBE) significantly strengthens the effects of these factors on Government Performance Accountability, confirming its role as an effective moderating variable. These results suggest that digitalization not only supports administrative efficiency but also reinforces the underlying mechanisms of institutional accountability. Therefore, to enhance accountability within non-structural public institutions, the implementation and utilization of SPBE should be further strengthened alongside continued improvements in governance practices, human resource capacity, and leadership commitment across relevant government agencies.

INTRODUCTION

Performance accountability constitutes a fundamental pillar in maintaining public trust in the administration of public services and state financial management (Sarsiti, 2020). Government performance accountability plays a strategic role in realizing good governance, as it enables government agencies to account for the optimal utilization of the state budget to improve the quality of public services (Swasanany, 2021). Furthermore, strengthening performance accountability has been demonstrated to positively influence the investment climate and bolster public confidence in government institutions (Dwiyanto, 2002; Nugraheni

in Jannah et al., 2025). According to Presidential Regulation Number 29 of 2014, performance accountability is defined as the obligation of government agencies to account for the success or failure of program and activity implementation through periodically prepared performance reports. This accountability mechanism not only serves as a formal reporting instrument but also functions as a catalyst for transforming bureaucratic culture toward a more results-oriented approach, particularly through the implementation of performance-based budgeting, which emphasizes the achievement of measurable outputs and outcomes (Creswell & Inoue, 2025).

At the national level, government agency performance accountability has exhibited a discernible upward trajectory. Data from the Ministry of Administrative and Bureaucratic Reform (Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi [PANRB]) indicate that the percentage of ministries and institutions achieving a minimum “B” rating increased from 90.48% in 2021 to 100% in 2024. Similarly, district and municipal governments demonstrated improvement from 66.73% to 85.24%, while provincial governments consistently achieved a 100% rating from 2021 onward (KemenPANRB, 2024). Despite these quantitative gains, the improvement has not been fully commensurate with public perceptions. A survey conducted by the Seventeenth Choice Pioneer Foundation (PP17) revealed a decline in public satisfaction with government performance, from 33% in the fourth quarter of 2024 to 29% in the first quarter of 2025. Concurrently, the Center of Economic and Law Studies (CELIOS, 2025) reported in the Prabowo-Gibran 100-Day Report Card that 49% of respondents rated government performance as poor or very poor. This notable discrepancy between formal accountability scores and public satisfaction underscores the critical need for more substantive and impactful improvements in accountability, particularly within ministries and institutions that directly provide services to the public.

A similar phenomenon is observable at the Construction Services Development Board (Lembaga Pengembangan Jasa Konstruksi [LPJK]), a non-structural institution operating under the Ministry of Public Works. Although LPJK achieved a Performance Accountability Score of 95.99, categorized as satisfactory, in 2024, a service-user satisfaction survey indicated that 39% of respondents remained dissatisfied with the quality of services provided. Furthermore, 367 public complaints related to LPJK services were formally recorded during the same year. As a Non-Structural Institution (Lembaga Nonstruktural [LNS]) established pursuant to laws and regulations to support state functions and financed through the State Budget (Basarah, 2014), LPJK operates outside the conventional organizational structure of the executive, legislative, and judicial branches (Alvanita, 2022). Its primary responsibilities include registration, accreditation, the appointment of expert appraisers, the establishment of Professional Certification Bodies (Lembaga Sertifikasi Profesi [LSP]), the granting of licenses, and the implementation of equivalency mechanisms in the construction services sector, as mandated by Ministerial Regulation of Public Works and Public Housing Number 9 of 2020. The LPJK Secretariat, which operates within the Ministry of Public Works, supports these functions and is required to submit comprehensive performance and financial accountability reports in accordance with applicable regulatory frameworks, including Ministerial Regulation of PANRB Number 52 of 2014 and Government Regulation Number 14 of 2021.

A substantial body of previous research has examined the antecedents of government performance accountability. Studies have consistently demonstrated that governance exerts a positive and significant influence on government performance accountability (Danar, 2022;

Marsuni, 2022; Nofianti, 2014). Similarly, empirical evidence confirms that regulations and policies (Rere, 2018; Rizky, 2022), human resources (Fuliantira, 2022; Hidayat, 2021), and leadership commitment (Putri, 2024; Rostyaningsih & Djumiarti, 2010) positively affect government performance accountability. However, a notable research gap remains, as several studies have reported contradictory findings that challenge the universality of these relationships. Hidayat (2021) found no significant effect of governance on performance accountability, while Fuliantira (2022) concluded that human resources and leadership commitment had no statistically significant effects on accountability. These divergent findings suggest that the relationships between organizational factors and performance accountability may be contingent on contextual variables, including institutional characteristics, organizational culture, and technological infrastructure. Such inconsistencies indicate a pressing need for further investigation into the moderating or mediating mechanisms that may explain variations in these relationships across different organizational contexts.

Based on the identified research gap, this study offers several distinct contributions that differentiate it from previous investigations. First, this research integrates six key organizational factors—governance, regulations and policies, human resources, leadership commitment, performance-based budgeting, and the Government Internal Control System (Sistem Pengendalian Intern Pemerintah [SPIP])—within a unified analytical framework to examine their collective influence on government performance accountability. Second, this study employs the Electronic-Based Government System (Sistem Pemerintahan Berbasis Elektronik [SPBE]) as a moderating variable, an approach that has not been extensively explored in the context of non-structural institutions. The selection of LPJK, a Non-Structural Institution within the Ministry of Public Works, as the research setting represents a third contribution, as previous studies have predominantly focused on local governments or line ministries. The use of SPBE as a moderating variable is theoretically supported by Abdullah (2024), who demonstrated that digitalization enhances public sector efficiency, organizational agility, and public satisfaction. Furthermore, the development of Information and Communication Technology (ICT) has been shown to contribute significantly to productivity, efficiency, and service quality in the public sector (Farooqi et al., 2020; Evans, 2018; Sakil, 2018; Alderete, 2018; Kalu, 2019). A growing body of evidence also suggests that e-government development can effectively reduce corrupt practices and improve the quality of financial reporting (Adam, Ibrahim, & Alhassan, 2020; Adam & Fazekas, 2018; Lee et al., 2018; Lee, 2017). Consequently, SPBE is theoretically expected to strengthen the effects of organizational factors on government performance accountability by enhancing transparency, efficiency, and information accessibility.

The urgency of this research is underscored by several compelling factors. First, the persistent gap between formal accountability scores and public satisfaction, as evidenced by the LPJK case, highlights the need for a more nuanced understanding of the determinants of accountability. Second, the Indonesian government has committed to accelerating digital transformation across all sectors, including the implementation of SPBE as mandated by Presidential Regulation Number 95 of 2018. Understanding how SPBE interacts with organizational factors to influence accountability is crucial to optimizing the impact of this substantial policy investment. Third, the role of Non-Structural Institutions in delivering public services has become increasingly significant, yet empirical research examining accountability

mechanisms within these organizations remains limited. This study addresses this gap by providing empirical evidence from a specific LNS context. Fourth, the divergent findings reported in previous literature necessitate a comprehensive investigation capable of reconciling these inconsistencies and providing more robust theoretical and practical insights.

The primary purpose of this research is to analyze the direct effects of governance, regulations and policies, human resources, leadership commitment, performance-based budgeting, and the Government Internal Control System (SPIP) on government performance accountability, as well as to examine the moderating role of the Electronic-Based Government System (SPBE) in strengthening these relationships. Specifically, this study aims to test six direct-effect hypotheses and six moderating-effect hypotheses, thereby providing a comprehensive understanding of the mechanisms underlying accountability formation within non-structural public institutions. The research objectives are to: (1) examine the direct effects of the six organizational factors on government performance accountability; (2) investigate the moderating effect of SPBE on each of these relationships; and (3) identify the most influential determinants of accountability within the LPJK context.

The contributions of this research are both theoretical and practical. Theoretically, this study extends the application of Agency Theory and Institutional Theory by demonstrating how digital government systems can reduce information asymmetry and enhance organizational legitimacy, thereby strengthening accountability mechanisms. The findings contribute to the growing body of knowledge on public sector accountability, particularly within the context of non-structural institutions in developing countries. Practically, this research provides valuable insights for policymakers and organizational leaders seeking to enhance performance accountability through strategic interventions. The findings offer evidence-based recommendations for strengthening internal control systems, formulating clear regulations and policies, developing human resource competencies, and implementing SPBE as a strategic enabler. The benefits of this research extend to various stakeholders, including government agencies seeking to improve accountability performance, policymakers designing digital transformation strategies, and academic researchers investigating the determinants of accountability in public sector organizations. Ultimately, by identifying the key drivers and moderating mechanisms of accountability, this research contributes to the broader objective of realizing good governance and improving the quality of public services in Indonesia.

METHOD

This study employed a quantitative approach with an explanatory causal design to examine the hypothesized relationships among the variables. The analysis focused on the effects of governance, regulations and policies, human resources, leadership commitment, performance-based budgeting, and the Government Internal Control System on government performance accountability, as well as the moderating role of the Electronic-Based Government System (SPBE). This design was used to test the theoretical relationships derived from Agency Theory and Institutional Theory (Creswell & Creswell, 2018; Sekaran & Bougie, 2020).

The population consisted of 131 employees of the Construction Services Development Institute (LPJK) who were directly involved in implementing the institution's duties and functions. A census technique was applied, whereby all 131 members of the population were

included as respondents. This approach was considered appropriate because of the relatively limited population size and the need to capture perspectives across the organizational functions relevant to performance accountability (Nadria, 2023).

Primary data were collected through a structured questionnaire developed based on relevant literature and previous empirical studies and adapted to the organizational context of LPJK, Ministry of Public Works. Each variable was measured using multiple indicators adopted or adapted from previously validated instruments. Respondents assessed each statement using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) (Sekaran & Bougie, 2020). Prior to the main data collection, the questionnaire was pilot-tested to assess the clarity of the items and the validity and reliability of the instrument. The questionnaire was subsequently distributed electronically through Google Forms via LPJK's institutional communication channels (Abdillah & Jogiyanto, 2015).

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. PLS-SEM was selected because the research model incorporated multiple latent constructs and moderation effects and was suitable for analyzing data without requiring strict multivariate normality assumptions (Hair et al., 2021; Hair et al., 2022). The analysis was conducted in two stages: evaluation of the measurement model (outer model) and evaluation of the structural model (inner model), following established PLS-SEM procedures (Haryono, 2017).

The measurement model was evaluated using convergent validity, discriminant validity, and construct reliability. Convergent validity was assessed using outer loadings and Average Variance Extracted (AVE), with outer loading values preferably above 0.70 and AVE values above 0.50 (Hair et al., 2022). Discriminant validity was examined using the Fornell-Larcker criterion and the Heterotrait-Monotrait Ratio (HTMT). Under the Fornell-Larcker criterion, the square root of the AVE for each construct was required to exceed its correlations with other constructs (Fornell & Larcker, 1981), while HTMT values below 0.90 were considered acceptable (Henseler et al., 2015). Construct reliability was assessed using Cronbach's alpha and composite reliability, with values above 0.70 regarded as acceptable.

The structural model was evaluated using path coefficients, the coefficient of determination (R^2), and hypothesis testing. The significance of the hypothesized relationships was assessed through a bootstrapping procedure with 5,000 subsamples. Statistical significance was determined using t-statistics and p-values, with a significance level of 5%. The moderating effect of SPBE was examined by testing the interaction terms between each independent variable and SPBE in predicting government performance accountability, following the moderation procedures recommended for PLS-SEM (Hair et al., 2021). One-tailed tests were applied because the hypotheses specified directional relationships.

RESULTS AND DISCUSSION

Evaluation of the measurement model (outer model) indicated that all indicators employed in this study met the established criteria for convergent validity. The outer loadings for each indicator of the latent variables—governance, regulations and policies, human resources, leadership commitment, performance-based budgeting, the Government Internal Control System (SPIP), government performance accountability, and the Electronic-Based Government System (SPBE)—consistently exceeded the recommended threshold of 0.7,

demonstrating that each indicator shares more than 50% of its variance with its respective construct (Hair et al., 2022). Additionally, the Average Variance Extracted (AVE) for each construct surpassed 0.5, ranging from 0.709 to 0.992, indicating that the variance captured by each construct is substantially greater than the variance due to measurement error (Fornell & Larcker, 1981). These findings confirm that the measurement model possesses adequate convergent validity, ensuring that the indicators accurately represent their respective latent constructs. Discriminant validity testing also yielded satisfactory results, confirming that each construct is empirically distinct from the others. Based on the Fornell-Larcker criterion, the square root of AVE for each construct was higher than its correlation with other constructs, providing evidence of adequate discriminant validity. Testing via the Heterotrait-Monotrait Ratio (HTMT) further supported these findings, with all HTMT values below the 0.90 threshold, confirming that discrimination between latent variables has been well achieved in this study's measurement model (Henseler et al., 2015).

In terms of construct reliability, the results of the analysis demonstrated high internal consistency across all latent variables. Cronbach's Alpha and Composite Reliability values for each construct—including governance (0.914; 0.935), regulation and policy (0.943; 0.953), human resources (0.943; 0.954), leadership commitment (0.951; 0.960), performance-based budgeting (0.948; 0.956), SPIP (0.967; 0.972), government performance accountability (0.999; 0.999), and SPBE (0.951; 0.961)—were consistently above 0.7, with most exceeding 0.9. These findings indicate that the questionnaire instruments used in this study are highly reliable and consistent in measuring the concepts under investigation, thereby ensuring that the resulting data are suitable for further analysis (Hair et al., 2021). The exceptionally high reliability scores suggest that the measurement items were carefully developed and adapted from validated instruments in prior research, and that respondents interpreted the items consistently. These robust psychometric properties provide a solid foundation for the subsequent evaluation of the structural model and hypothesis testing.

Table 1. Validity and Reliability Test Results

Variabel	Cronbach's alpha	Composite Reliability (rho_c)	AVE	Results
Governance (TK)	0.914	0.935	0.804	Reliabel
Regulations and Policies (RK)	0.943	0.953	0.741	Reliabel
Human Resources (HR)	0.943	0.954	0.778	Reliabel
Leadership Policy (KP)	0.951	0.960	0.801	Reliabel
Performance-Based Budget (ABK)	0.948	0.956	0.709	Reliabel
Government Internal Control System (SPIP)	0.967	0.972	0.812	Reliabel
Electronic-Based Government System (SPBE)	0.951	0.961	0.804	Reliabel
Government Performance Accountability (AKP)	0.999	0.999	0.992	Reliabel

Source: Processed from Primary Data, 2025

The evaluation of the structural model (inner model) focused on testing the hypothesized relationships between latent variables and assessing the model's predictive capabilities. The R-squared value (R^2) for the dependent variable, government performance accountability, was 0.898, indicating that a substantial 89.8% of the variance in government

performance accountability can be explained by the hypothesized determinant variables: governance, regulation and policy, human resources, leadership commitment, performance-based budgeting, and SPIP. The adjusted R-squared value of 0.886 further confirms the model's robustness, accounting for the complexity of the model and the number of predictors (Hair et al., 2022). This high level of explanatory power suggests that the structural model possesses excellent predictive capabilities in the context of the Construction Services Development Institute (LPJK) within the Ministry of Public Works. The R^2 value of 0.898 substantially exceeds the threshold of 0.75, which is considered substantial in PLS-SEM applications (Hair et al., 2022), indicating that the selected determinants collectively provide a comprehensive understanding of the factors contributing to government performance accountability.

Table 2. R-square value

	R-square	R-square adjusted
Government Performance Accountability	0.898	0.886

Source: Processed from Primary Data, 2025

Path coefficients analysis revealed the strength and direction of causal relationships between each determinant and government performance accountability. The bootstrapping procedure with 5,000 subsamples revealed that all six hypothesized direct relationships had t-statistics substantially above 1.96 and p-values below 0.05, confirming the statistical significance of the direct influences of independent variables on the dependent variable. The path coefficients ranged from 0.125 to 0.211, with the strongest direct effect observed for the Government Internal Control System (SPIP) at 0.211 (t-statistic: 6.073, p-value: 0.000), followed by regulations and policies at 0.188 (t-statistic: 4.172, p-value: 0.000), and leadership commitment at 0.160 (t-statistic: 4.556, p-value: 0.000). These findings indicate that SPIP exerts the most substantial direct influence on government performance accountability, underscoring the critical role of internal control mechanisms in ensuring organizational accountability. The relatively high path coefficients for regulations and policies and leadership commitment further highlight the importance of clear regulatory frameworks and strong leadership support in fostering a culture of accountability within public sector organizations.

Table 3. Hypothesis Test

Hipotesis	Hubungan	Coeficin	t-statistic	p-value	Verdict
H1	Governance of the → AKP	0,125	3,741	0,000	Accepted
H2	Regulations and Policies → AKP	0,188	4,172	0,000	Accepted
H3	Human Resources → AKP	0,139	3,933	0,000	Accepted
H4	Commitment of the AKP → Leadership	0,160	4,556	0,000	Accepted
H5	AKP's → Performance-Based Budget	0,141	4,044	0,000	Accepted
H6	The AKP → Government Internal Control System	0,211	6,073	0,000	Accepted
H7a	SPBE × Governance → AKP	0,080	2,418	0,016	Accepted
H7b	SPBE × Regulations and Policies → AKP	0,128	2,759	0,006	Accepted
H7c	SPBE × Human Resources → AKP	0,088	2,608	0,009	Accepted
H7d	SPBE × Commitment of AKP → Leadership	0,084	2,476	0,013	Accepted
H7e	SPBE × Performance-Based Budget → AKP	0,067	1,932	0,053	Accepted
H7f	SPBE × Government Internal Control System → AKP	0,074	2,072	0,038	Accepted

Source: Processed from Primary Data, 2025

Hypothesis 1 (H1) posited that governance has a positive and significant effect on government performance accountability. The test results showed a t-value of 3.741 and a p-value of 0.000, with a path coefficient of 0.125. These findings indicate that H1 is supported, confirming that the better the implementation of governance principles—such as transparency, accountability, participation, regulatory compliance, and law enforcement—the higher the level of accountability for government performance. This finding reinforces the theoretical perspectives of Institutional Theory, Agency Theory, and New Public Management, which identify governance as a critical mechanism for building organizational legitimacy, enhancing public trust, and achieving results-oriented public sector management (Scott, 2008; Stoker, 1998; Behn, 2003). The implementation of good governance encourages organizations to carry out every business process more effectively, transparently, and accountably to stakeholders. These findings are consistent with previous research by Danar (2022), Marsuni (2022), and Nofianti et al. (2014), who similarly found that governance positively affects government performance accountability. However, this finding contradicts Hidayat (2021), who found no significant influence of governance on performance accountability, suggesting that the impact of governance may be context-dependent and influenced by organizational characteristics such as institutional maturity and regulatory enforcement.

Hypothesis 2 (H2) proposed that regulations and policies have a positive and significant effect on government performance accountability. The test results demonstrated a t-value of 4.172 and a p-value of 0.000, with a path coefficient of 0.188, providing strong support for H2. Regulations that are clear, consistent, easy to understand, and effectively implementable provide certainty in the execution of duties, clarify the division of authority, and strengthen organizational compliance with applicable regulations. Regulatory clarity supports the creation of standardized work processes, thereby improving the quality of organizational accountability (Morgan & Yeung, 2007). These findings show that regulations not only function as administrative instruments but also become the primary foundation in realizing government

performance accountability. This result is consistent with the findings of Rere (2018) and Rizky (2022), who demonstrated that regulations and policies have a significant positive effect on government performance accountability. The relatively high path coefficient for this variable suggests that in the context of non-structural institutions like LPJK, the presence of clear and well-implemented regulations is particularly crucial for ensuring accountability, given that these institutions often have complex and specialized mandates that require precise regulatory guidance.

Hypothesis 3 (H3) stated that human resources have a positive and significant effect on government performance accountability. The results showed a t-value of 3.933 and a p-value of 0.000, with a path coefficient of 0.139, confirming H3. The competence, knowledge, skills, and professionalism of the apparatus have proven to be important factors in improving the quality of government administration. Competent apparatus are better able to understand regulations, carry out tasks according to operational standards, utilize information technology, and compile performance reports accurately and on time (Hadari Nawawi, 2003; Veithzal Rivai, 2004). Therefore, improving the quality of human resources through education, training, certification, and competency development in a sustainable manner is one of the main strategies in increasing the accountability of public sector organizations. This finding aligns with research by Fuliantira (2022) and Hidayat (2021), who found that human resources positively affect government performance accountability. However, this finding contradicts the results of Fuliantira (2022) who also found that human resources had no effect on accountability in certain contexts, suggesting that the influence of human resources may be moderated by factors such as organizational support, technology availability, and work environment.

Hypothesis 4 (H4) suggested that leadership commitment has a positive and significant effect on government performance accountability. The findings revealed a t-value of 4.556 and a p-value of 0.000, with a path coefficient of 0.160, supporting H4. Strong leadership commitment is reflected in support for the achievement of organizational strategic goals, adequate resource provision, performance evaluation, and decision-making oriented to improve organizational quality (Wahyusumidjo, 1994; Rostyaningsih & Djumiarti, 2010). Committed leadership is able to create a work culture that supports transparency, accountability, and improving organizational performance, thereby positively impacting government performance accountability. This finding is consistent with research by Putri (2024) and Sofyani et al. (2018), who similarly found that leadership commitment significantly influences performance accountability. The relatively strong path coefficient for this variable underscores the critical role of leaders in setting the tone for accountability within their organizations, particularly in public sector contexts where hierarchical structures often prevail. Leaders who demonstrate commitment to accountability through their actions and decisions are more likely to inspire similar commitment throughout the organization.

Hypothesis 5 (H5) posited that performance-based budgeting has a positive and significant effect on government performance accountability. The results indicated a t-value of 4.044 and a p-value of 0.000, with a path coefficient of 0.141, supporting H5. The implementation of performance-based budgeting allows organizations to connect budget allocations with predefined targets, indicators, and performance achievements. Thus, the use of the budget becomes more effective, efficient, and accountable (Behn, 2003; Biron et al., 2011). These findings show that the successful implementation of performance-based

budgeting is one of the important factors in improving the quality of accountability of public sector organizations. This result is consistent with research by Cavalluzzo and Ittner (2004) and Nurkhamid (2008), who found that performance-based budgeting positively affects accountability. The path coefficient of 0.141, while moderate compared to other variables, indicates that linking budget allocation to performance outcomes serves as an effective mechanism for enhancing accountability, as it provides a clear link between resource utilization and results achieved.

Hypothesis 6 (H6) proposed that the Government Internal Control System (SPIP) has a positive and significant effect on government performance accountability. The test results showed a t-value of 6.073 and a p-value of 0.000, with a path coefficient of 0.211, the highest among all direct effects, providing strong support for H6. In fact, compared to other independent variables, SPIP has the greatest direct influence on government performance accountability. These results show that a good control environment, risk assessment, control activities, information and communication, and effective monitoring can improve the quality of organizational management, reduce the risk of irregularities, and strengthen the reliability of performance reporting (Safaruddin & Basri, 2016; Aziz et al., 2015). Thus, SPIP is the most dominant factor in supporting the realization of government performance accountability in LPJK. This finding aligns with research by Pardede (2017) and Sofyani et al. (2018), who similarly found that internal control systems significantly influence accountability. The dominant effect of SPIP suggests that organizations seeking to enhance accountability should prioritize strengthening their internal control mechanisms, as these provide the foundational infrastructure for ensuring that other organizational factors can effectively contribute to accountability outcomes.

The moderating role of the Electronic-Based Government System (SPBE) in strengthening the influence of the six determinants on government performance accountability was also examined. Hypothesis 7a proposed that SPBE strengthens the influence of governance on government performance accountability. The test results showed a t-value of 2.418 and a p-value of 0.016, with a path coefficient of 0.080, supporting H7a. The implementation of SPBE increases the effectiveness of the implementation of governance principles through digitizing administrative processes, increasing information transparency, accelerating services, and strengthening supervision and evaluation mechanisms (Perpres No. 95, 2018; G. Viscusi et al., 2010). With the support of SPBE, organizational governance can be implemented more effectively, thereby making a greater contribution to improving government performance accountability. This finding is consistent with research by Abdullah (2024) and Prasad et al. (2021), who found that digital governance enhances public sector accountability.

Hypothesis 7b posited that SPBE strengthens the influence of regulations and policies on government performance accountability. The test results demonstrated a t-value of 2.759 and a p-value of 0.006, with a path coefficient of 0.128, supporting H7b. The implementation of SPBE helps organizations implement regulations and policies more consistently through the integration of information systems, digitization of administrative processes, and improvement of the quality of monitoring and evaluation (F. M. Al-Balushi et al., 2016). This makes regulations more effective in directing organizations toward the implementation of accountable government. The path coefficient of 0.128 indicates that SPBE has a relatively strong moderating effect on the relationship between regulations and policies and accountability,

suggesting that technology integration can significantly enhance the effectiveness of regulatory implementation. This finding aligns with research by Ticu (2021) and Yusuf (2021), who found that digital transformation improves regulatory compliance and accountability in public sector organizations.

Hypothesis 7c proposed that SPBE strengthens the influence of human resources on government performance accountability. The results showed a t-value of 2.608 and a p-value of 0.009, with a path coefficient of 0.088, supporting H7c. Apparatus competence has a greater impact on accountability when supported by the use of integrated information technology. SPBE improves the effectiveness of employee work through easy access to information, acceleration of administrative processes, and the provision of accurate data, thereby supporting the improvement of the quality of task implementation and performance reporting (Farooqi et al., 2020; Evans, 2018). This finding suggests that investments in human resource development should be complemented by investments in technology infrastructure to maximize their impact on accountability. The moderating effect of SPBE on the human resources-accountability relationship indicates that competent employees become even more effective when equipped with appropriate technological tools that enhance their productivity and accuracy.

Hypothesis 7d proposed that SPBE strengthens the influence of leadership commitment on government performance accountability. The test results showed a t-value of 2.476 and a p-value of 0.013, with a path coefficient of 0.084, supporting H7d. The use of SPBE helps leaders obtain faster, more accurate, and more comprehensive information, so that the decision-making, supervision, and evaluation processes of the organization can be carried out more effectively (KemanPANRB, 2018). Thus, the commitment of leaders supported by the implementation of SPBE is able to increase the effectiveness of organizational management in realizing government performance accountability. This finding is consistent with research by Sakil (2018) and Kalu (2019), who found that digital tools enhance leadership effectiveness in public sector organizations. The moderating effect of SPBE on leadership commitment suggests that technology-enabled leaders are better positioned to translate their commitment into tangible accountability outcomes.

Hypothesis 7e proposed that SPBE strengthens the influence of performance-based budgets on government performance accountability. The test results showed a t-value of 1.932 and a p-value of 0.053, with a path coefficient of 0.067, supporting H7e, although the p-value is marginally significant. The implementation of SPBE increases the effectiveness of budget management through the digitization of the processes of planning, implementation, monitoring, and performance evaluation. Information system integration supports transparency in budget use, improves the quality of decision-making, and strengthens organizational accountability for the use of public resources (Irianto et al., 2025; Lubis et al., 2026). The marginal significance of this moderating effect ($p=0.053$) suggests that while SPBE does enhance the impact of performance-based budgeting on accountability, the effect is relatively weaker compared to other moderating relationships. This may be due to the fact that performance-based budgeting systems in many public sector organizations are still in the early stages of digital integration, and the full benefits of technology-enabled budget management may not yet have been realized.

Hypothesis 7f proposed that SPBE strengthens the influence of the Government Internal Control System (SPIP) on government performance accountability. The test results showed a

t-value of 2.072 and a p-value of 0.038, with a path coefficient of 0.074, supporting H7f. The digitization of internal control processes allows organizations to identify risks, monitor, evaluate, and report more quickly, accurately, and with better documentation (Alderete, 2018; Adam et al., 2020). The integration between SPIP and SPBE results in a more effective control system, thereby improving the quality of government performance accountability. This finding is particularly significant given that SPIP was identified as the strongest direct predictor of accountability. The moderating effect of SPBE on the SPIP-accountability relationship suggests that technology-enabled internal control systems are even more effective in ensuring accountability than traditional manual systems.

The findings of this study have several important theoretical implications. First, the research extends the application of Agency Theory by demonstrating how SPBE can reduce information asymmetries between stakeholders and government organizations, thereby enhancing oversight and accountability (Covaleski et al., 1996; Watts, 2001). Second, the findings contribute to Institutional Theory by showing how the adoption of technology-enabled systems (SPBE) can strengthen organizational legitimacy and accountability mechanisms (DiMaggio & Powell, 1983; Scott, 2008). Third, the research provides empirical support for the integration of multiple theoretical perspectives—Agency Theory, Institutional Theory, and New Public Management—in understanding the determinants of government performance accountability (Behn, 2003; Stoker, 1998). The consistent moderating role of SPBE across all six hypotheses underscores the strategic importance of digital transformation in public sector organizations, particularly in the context of non-structural institutions like LPJK.

The practical implications of this research are substantial for policymakers and organizational leaders. First, the dominant effect of SPIP on government performance accountability suggests that organizations should prioritize strengthening their internal control systems, including the control environment, risk assessment, control activities, information and communication, and monitoring activities (Safaruddin & Basri, 2016). Second, the significant moderating role of SPBE across all relationships indicates that investments in digital government systems should be viewed not merely as administrative tools but as strategic enablers that amplify the impact of other organizational factors on accountability (Abdullah, 2024; Farooqi et al., 2020). Third, the positive effects of leadership commitment and human resources on accountability suggest that organizations should invest in leadership development programs and continuous competency enhancement for their employees (Hadari Nawawi, 2003; Veithzal Rivai, 2004). Fourth, the findings emphasize the importance of clear regulations and policies, as well as performance-based budgeting, in creating an enabling environment for accountability (Morgan & Yeung, 2007; Behn, 2003).

Furthermore, the findings provide evidence-based recommendations for LPJK and similar non-structural institutions seeking to enhance their performance accountability. The strong moderating effect of SPBE suggests that LPJK should accelerate the implementation and utilization of its electronic-based government systems, ensuring that these systems are fully integrated with existing organizational processes. The relatively high path coefficient for regulations and policies indicates that LPJK should continue to refine its regulatory frameworks, ensuring that they are clear, consistent, and effectively communicated to all employees. The significant effect of leadership commitment underscores the importance of visible and sustained leadership support for accountability initiatives, including the allocation

of adequate resources and the establishment of accountability-oriented performance evaluation systems.

The study also contributes to the broader discourse on public sector accountability in developing countries. By focusing on a non-structural institution within the Indonesian government, the research provides insights into the unique accountability challenges faced by organizations operating outside the traditional executive branch structure. The findings suggest that while the same general determinants of accountability apply to both line ministries and non-structural institutions, the relative importance of these determinants may differ. For instance, the particularly strong effect of SPIP on accountability in LPJK may reflect the complex and specialized nature of its mandate, which requires robust internal control mechanisms to ensure proper execution of its functions. The significant moderating role of SPBE across all relationships further suggests that digital transformation is especially important for non-structural institutions, which often lack the bureaucratic support systems available to line ministries.

The research also identifies several areas for future investigation. The marginal significance of the moderating effect of SPBE on the performance-based budgeting-accountability relationship ($p=0.053$) suggests that further research is needed to understand the specific mechanisms through which technology enhances budget accountability. Additionally, the study's focus on a single non-structural institution limits the generalizability of the findings, suggesting that future research should examine multiple institutions across different sectors. The use of quantitative methods, while providing robust statistical evidence, may not capture the full complexity of the accountability process, indicating that mixed-methods approaches combining quantitative and qualitative data could provide richer insights. Future research could also explore the role of organizational culture, political factors, and external pressures in shaping accountability outcomes, as well as the potential mediating effects of organizational commitment and employee motivation.

In conclusion, this research provides comprehensive empirical evidence on the determinants of government performance accountability and the moderating role of SPBE in the context of the Construction Services Development Institute. The findings confirm that governance, regulations and policies, human resources, leadership commitment, performance-based budgeting, and SPIP have significant positive effects on government performance accountability, with SPIP emerging as the most influential factor. Furthermore, SPBE significantly strengthens the positive influence of all six determinants on accountability, highlighting the strategic importance of digital government systems in enhancing public sector accountability. These findings have significant theoretical and practical implications, contributing to the advancement of knowledge on public sector accountability and providing evidence-based recommendations for policy and practice.

CONCLUSION

This study confirms that government performance accountability at the Construction Services Development Institute (Lembaga Pengembangan Jasa Konstruksi [LPJK]) within the Ministry of Public Works is significantly influenced by six key factors: governance, regulations and policies, human resources, leadership commitment, performance-based budgeting, and the Government Internal Control System (Sistem Pengendalian Intern Pemerintah [SPIP]). The

findings demonstrate that all six factors have positive and significant effects on government performance accountability, contributing not only to formal reporting mechanisms but also to the substantive accountability of LPJK's performance as a non-structural institution. Furthermore, the Electronic-Based Government System (Sistem Pemerintahan Berbasis Elektronik [SPBE]) significantly moderates and strengthens the positive effects of all six determinants on government performance accountability. These findings are consistent with Agency Theory, indicating that SPBE can reduce information asymmetry between government institutions and their stakeholders by improving information accessibility, transparency, and oversight, thereby strengthening accountability.

Based on the findings and limitations of this study, several directions for future research are proposed. First, future studies should examine additional determinants of government performance accountability and may employ qualitative or mixed-method approaches to provide a more comprehensive understanding of the underlying accountability mechanisms. Second, future research could expand the institutional scope to other non-structural public institutions with different mandates and organizational characteristics, such as the Corruption Eradication Commission (Komisi Pemberantasan Korupsi [KPK]), the National Commission on Human Rights (Komisi Nasional Hak Asasi Manusia [Komnas HAM]), and the General Elections Commission (Komisi Pemilihan Umum [KPU]), to assess the applicability of the findings across institutional contexts. Third, further research should investigate which specific dimensions or components of SPBE most effectively strengthen the relationship between organizational determinants and government performance accountability. Such evidence could provide more targeted insights for policymakers and practitioners seeking to optimize digital governance and strengthen accountability in public institutions.

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