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# Do internal controls improve integrity? A comparative study of central and regional governments

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**ABSTRACT**

Integrity is a cornerstone of good governance; yet, its realization remains uneven across various levels of government in Indonesia. This study aims to compare the influence of integrated internal control system components—risk management, internal audit, internal control systems, and corruption control—on the integrity of central and regional government agencies. A quantitative approach is employed using Spearman's rank correlation and panel data regression analysis on data from 42 central and 491 regional agencies collected between 2022 and 2023. Model selection is based on the Chow, Hausman, and Breusch–Pagan tests. The results show that in regional agencies, risk management, internal control systems, and corruption control significantly enhance integrity, while internal audit does not. Conversely, none of the control components show a significant effect on integrity in central agencies, indicating a gap between system maturity and actual governance outcomes. These differences reflect contextual challenges, including bureaucratic complexity, limited leadership engagement, and a compliance-oriented implementation approach. The study concludes that tailored strategies are needed to strengthen internal audits in regional agencies and to move beyond procedural compliance in central institutions. The study offers practical implications for improving public governance and contributes novel insights through its comparative approach across government levels.

**KEYWORDS:**
Corruption; government agencies; integrity; integrated internal control system

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# INTRODUCTION

Integrity is a cornerstone of good governance, essential for ensuring accountability, public trust, and ethical conduct within government institutions. To uphold integrity, particularly in the public sector, organizations must implement comprehensive internal control systems that encompass internal audit, risk management, formal control mechanisms, and measures to prevent corruption. Indonesia's National Committee for Governance Policy identifies integrity as a core value in the execution of governmental responsibilities (Kementerian Koordinator Bidang Perekonomian & Komite Nasional Kebijakan Governansi, 2022). Integrity encompasses honesty, adherence to ethical standards, codes of conduct, and a strong stance against corruption (Suyono, 2022). It plays a vital role in fostering public trust and legitimizing administrative systems, which in turn support the effective functioning of government institutions (Sandu, 2016). A thorough understanding of integrity among officials and employees fosters integrity competencies in government agencies (Suyono, 2022). As Puteri (2023) highlights, cultivating integrity demands commitment at both the organizational and individual levels. This requires a structured approach to prevent ethical breaches and to support corrective actions when necessary. By fostering awareness and ensuring consistent implementation, agencies can strengthen integrity at both institutional and personal levels.

In practice, numerous challenges persist in implementing integrity. These challenges include ethical and moral violations, corruption, and disciplinary violations. Corruption, in particular, threatens societal values, undermines national identity, and erodes institutional integrity (Putra & Linda, 2022). This issue is prevalent worldwide, including in Indonesia. Indonesian government agencies struggle with widespread corruption: a critical risk to public sector governance (Priyarsono, 2022). This corruption risk is a significant challenge for public organizations. Pujileksono and Siregar (2022) define *corruption* as an immoral act in which power is misused to benefit multiple parties with aligned interests. Law number 20 of 2021 concerning eradication of corruption defines corruption as any unlawful act in which individuals abuse authority, either directly or indirectly, resulting in financial or economic harm to the state. Corruption endangers national security and social stability (Kholikulovna, 2022). The multiplier effect of corruption risk is particularly salient for agencies and nations, underscoring the need for comprehensive risk management strategies. The impact of corruption extends beyond governance failure. It weakens economic growth, heightens financial instability, reduces investment attractiveness, hinders poverty alleviation efforts, and undermines government accountability (KPK, 2024). Public finances suffer significantly due to corrupt practices (Pujileksono & Siregar, 2022), underscoring the need for effective integrity measures.

Apriani (2020) presents a contradictory correlation between integrity and corruption, showing that weak integrity increases the likelihood of corruption. Other studies confirm this inverse relationship (Endro, 2017). Integrity is a fundamental virtue upheld by organizations that serve the common good, whereas corruption exploits systems for personal gain at society's expense. Officials and employees committed to integrity are less susceptible to corruption. Consequently, enforcing integrity is a crucial factor in corruption prevention. Consequentialist ethics evaluates policies and actions based on their outcomes (Weruin, 2019). Within this framework, deontological and virtue ethics provide a foundation for integrity, establishing it as a moral obligation in the public sector (Lewis & Gilman, 2005). Integrity serves as an ethical boundary for officials and employees in decision-making and policy formulation.

Numerous initiatives have been implemented to enhance integrity and prevent corruption

from occurring. The efficacy of corruption control, risk management, internal audits, and internal control systems is all components of the integrated internal control system that the Government Financial Supervisory Agency (Badan Pengawasan Keuangan dan Pembangunan, BPKP) has established. Based on BPKP Regulation Number 5 of 2021 concerning the maturity assessment of the implementation of an integrated government internal control system at ministries/institutions/regions, both central and regional agencies are required to implement internal controls to safeguard state assets, ensure reliable financial reporting, improve operational efficiency, and maintain regulatory compliance. This integrated internal control system is based on the principle of virtue, ensuring that its components collectively enable public sector institutions to achieve their goals in an ethical manner.

An integrated internal control system exemplifies systems theory by interconnecting risk management, internal audit, internal control, and corruption control. These components are interconnected to achieve the goals of public sector institutions, namely, government bureaucracy with high integrity. Efendi et al. (2023) argue that system components rely on mutual interaction to achieve institutional objectives. Developing this system requires collaboration between internal agencies and external stakeholders. Ismaya et al. (2022) argue that systems theory in public administration examines the dynamic relationship between administrative structures and external influences. The effective implementation of integrated internal control systems strengthens integrity, reduces corruption risk, and promotes good governance. Ultimately, a professional, high-integrity government bureaucracy enhances public trust and accountability.

Despite the adoption of integrated internal control systems, corruption remains pervasive in government entities. Three assessments conducted between 2021 and 2023 indicate low anti-corruption performance: the Corruption Perception Index for Southeast Asian countries, the National Integrity Index for government agencies, and the Anti-Corruption Perception Index (IPAK) for Indonesian society. This may indicate deficiencies in the effectiveness of internal control systems, which could significantly impact integrity enforcement. Figure 1 illustrates the trends in corruption from 2019 to 2023, showing a steady increase in reported cases and suspected corruption. Particularly, in 2023, the number of corruption cases increased by 36.8% compared to the previous year. Concurrently, the number of corruption suspects grew by 21.4%.

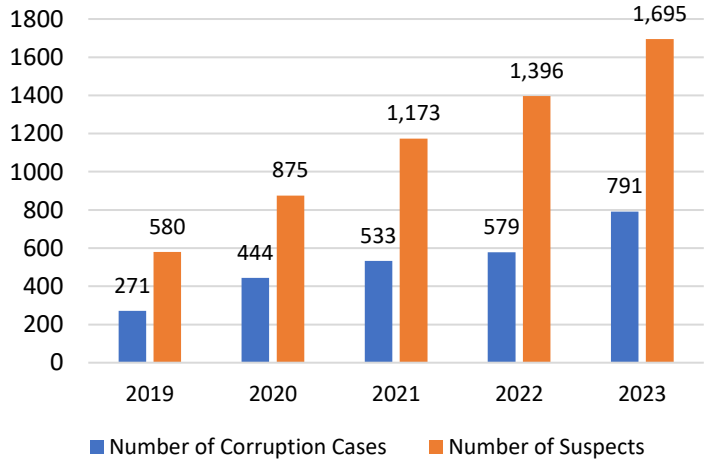


**Figure 2.** Trend in The Number of Corruption Cases and Corruption Suspects

***Source**: ICW (2024)*

Building on the discussion above, this study aims to conduct a comparative analysis on the influence of these components on integrity within central and regional government agencies. Existing research largely treats integrity as an independent variable, evaluating its impact on

financial reporting, organizational performance, public service quality, and fraud prevention (Oktavia, 2018; Sofia, 2018; Rakhmanto et al., 2021; Dian et al., 2024; Reschiwati & Aryanty, 2024). Furthermore, research on integrity is often conducted separately, analyzing how certain variables influence integrity (Johari et al., 2021; Sulistiyo et al., 2022). However, a comprehensive study that simultaneously examines the effect of internal audits, risk management, internal audit, internal control systems, and corruption control on integrity remains limited. Moreover, comparative studies between central and regional government institutions remain limited. Most prior research focuses on specific sectors or geographic regions without examining how governance mechanisms may function differently across various administrative levels (Nurhasanah, 2016; Sari et al., 2024). Given these gaps, this study contributes to the literature by offering a comprehensive and comparative assessment of how integrated internal control elements influence the integrity of central and regional government agencies. This approach not only expands the analytical scope but also offers practical insights for strengthening public sector governance in diverse institutional contexts.

Risk management plays a crucial role in maintaining integrity in the public sector (Johari et al., 2021). Studies indicate that while risk management directly influences system integrity, fraud awareness serves as a mediating factor in this relationship (Sihombing et al., 2023). Effective risk management in public services reduces fraud, enhances regulatory compliance, and mitigates potential risks (Asnawi et al., 2023). These studies demonstrate that by implementing risk management, organizations can identify risks that may compromise their integrity, including corruption. Organizations can develop preventive measures early on, reducing corruption. Well-mitigated risks can create a better organizational environment that strengthens individual and organizational integrity. Accordingly, the hypothesis in this study is that risk management has a significant effect on the integrity of government agencies (H1).

Another critical pillar of integrity is internal auditing, which strengthens organizational transparency and accountability while serving as a deterrent to corruption (Abdulhussein et al., 2023; Kifflee et al., 2023; Lonto et al., 2023; Bari et al., 2024). A stronger audit function within fraud risk management is correlated with a governance structure that is less vulnerable to fraudulent activities (Bonrath et al., 2024; Jati, 2019). The capability level of an internal audit system (APIP) directly affects integrity by determining how well corruption is detected (Permana & Bujana, 2024). Internal audits identify weaknesses in control mechanisms, enforce compliance, and drive governance improvements that preserve institutional integrity and deter corruption. Accordingly, this study hypothesizes that internal auditing has a significant effect on the integrity of government agencies (H2).

Prior studies have shown that institutions with well-functioning internal controls are better equipped to implement corruption control measures and foster a culture of integrity (Bari et al., 2024). Corruption cases in Indonesian ministries and institutions decreased when the internal control system was successful (Nurhasanah, 2016). An effective internal control system reduces the effectiveness of pressure against corruption and increases accountability (Apriani, 2020; Sari et al., 2024). Previous studies have shown that an effective internal control system can create a more secure environment that can encourage the growth of a culture of integrity and reduce corruption. Accordingly, the next hypothesis proposed is that the internal control system has a significant effect on the integrity of government agencies (H3).

Finally, corruption control mechanisms play a decisive role in safeguarding public institutions. Alwated et al. (2024) emphasize that effective corruption control strengthens government performance by reinforcing transparency, accountability, and good governance.

Empirical evidence from Nepal further demonstrates the role of government audits in promoting integrity and preventing corruption through corrective interventions (Bhul, 2023). Moreover, Sulistiyo et al. (2022) stress the importance of internal controls in fraud prevention. Well-designed corruption control measures by an organization can prevent fraud, as the company has systems and policies in place that prohibit such actions. This condition promotes transparency and better governance, thereby enhancing the integrity of both individuals and organizations. Thus, the fourth hypothesis is that corruption control has a significant effect on the integrity of government agencies (H4).

Based on the hypotheses developed regarding the relationships between the independent and dependent variables, the conceptual framework of this study is presented in Figure 2. Independent variables include risk management, internal audit, internal control systems, and corruption control.

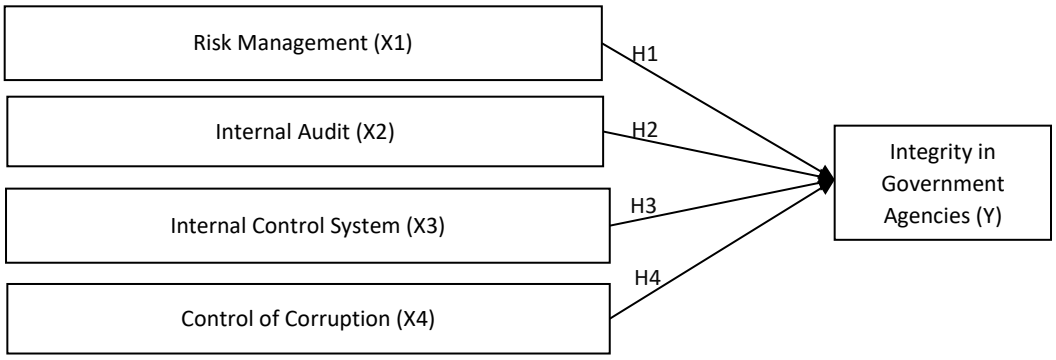


**Figure 2.** Conceptual Framework

# RESEARCH METHOD

This study employs a quantitative approach by combining correlation analysis and panel data regression to examine the influence of internal governance mechanisms on integrity across government agencies. Data were obtained through an extensive literature review and the analysis of publicly available records and reports. The study applies purposive sampling, a non-probability sampling technique used to select units based on predetermined characteristics relevant to the research objectives (Memon et al., 2024). This method enhances the relevance and reliability of the data, particularly within the context of quantitative research.

The sample comprises government agencies that have fully implemented integrated internal control systems. Specifically, the dataset includes central government agencies, such as ministries and national institutions, totaling 42 units per year from 2022 to 2023. It also includes regional government agencies, consisting of provincial, city, and regency-level administrations, totaling 491 units per year over the same period. The description of variables and their measurement criteria is presented in Table 1.

To assess the strength and direction of the relationships between variables, Spearman's rank correlation is employed. This method is particularly appropriate for ordinal data or data that are not normally distributed, and it is robust against the influence of outliers (Hauke & Kossowski, 2011). Unlike Pearson's correlation, Spearman's rank correlation evaluates the degree of monotonic association based on ranked values, making it suitable for this study's data characteristics. To further analyze the causal influence of independent variables, such as risk management, internal audit, internal control systems, and corruption control, on institutional integrity, this study utilizes panel data regression analysis. Panel data combines cross-sectional and time-series dimensions,

enabling the examination of multiple observational units over several periods while accounting for both individual heterogeneity and temporal variation (Gujarati & Porter, 2009). This approach offers richer analytical insights than cross-sectional or time-series analysis alone and is particularly valuable in public administration research when evaluating changes across institutions and time (Lillo & Torrecillas, 2018).

The panel data model used in this study follows the general form:

$$Y_{it} = \beta_{0_{it}} + \sum_{k=1}^{n} \beta_k X_{kit} + e_{it} \quad \text{..... (1)}$$

where $Y_{it}$ represents the dependent variable (integrity) for unit $i$ at time $t$, β0 is the intercept, βk denotes the slope coefficients, $X_{kit}$ is the $k$-th independent variable, and $e_{it}$ is the error term. This model structure allows the investigation of how explanatory variables affect integrity over time, while controlling for unobserved unit-specific effects (Indrasetianingsih et al., 2020).

**Table 1.** Variable Description

| Variables | Description | Source | Data Type |
|---|---|---|---|
| Integrity (Y) | Integrity Assessment Survey (Survei Penilaian Integritas, SPI) Report 2021–2023 | KPK | Numerical |
| Risk Management (X1) | Risk Management Index (MRI) Data from the 2021–2023 BPKP Performance Report | BPKP | Ordinal |
| Internal Audit (X2) | Capability Level Data of Internal Audit in Government (APIP) from the 2021–2023 BPKP Performance Report | BPKP | Ordinal |
| Internal Control System (X3) | Maturity Level Data of the Internal Control System in Government (Sistem Pengendalian Internal Pemerintah, SPIP) from the 2021-2023 BPKP Performance Report | BPKP | Ordinal |
| Corruption Control (X4) | The Effectiveness Index of Corruption Control (Integrity Evaluation for Corruption Control, IEPK) from the 2021-2023 BPKP Performance Report | BPKP | Ordinal |

To select the most appropriate panel data regression model, the study applies the Chow Test, Hausman Test, and Breusch-Pagan Lagrange Multiplier Test, following established procedures for distinguishing between the Common Effect Model (CEM), Fixed Effects Model (FEM), and Random Effects Model (REM) (Basuki & Prawoto, 2016). These tests help determine the most suitable specification to ensure robust and unbiased results. Finally, comparative analysis is also conducted to examine how these governance factors influence integrity differently between central and regional agencies. Results are presented both statistically and descriptively to identify institutional patterns and inform targeted policy recommendations.

# RESULT AND DISCUSSION

### Central Government Agencies (Ministries/Institutions)

The central government oversees administrative responsibilities at the national level. These agencies serve regulatory functions and execute specific duties. According to 2023 SPI data, the average integrity score for central government agencies was 75.3, classifying them as the “alert” category. This rating indicates moderate institutional vulnerability, particularly concerning ethical standards and anti-corruption safeguards. Furthermore, data from the Corruption Eradication Commission (Komisi Pemberantasan Korupsi, KPK) show that between 2004 and 2024, central

government agencies were involved in 505 corruption cases, second only to regional governments in frequency.

Despite these integrity concerns, the central government has implemented a relatively comprehensive integrated internal control system. This framework includes internal audits, risk management, internal control mechanisms, and structured corruption control measures. Based on the 2023 Corruption Monitoring Reports by the KPK and BPKP, these agencies achieved an average maturity level of 3 across all four governance components. This suggests that, while the internal control system is moderately well-established, it has not yet reached an optimal level of maturity or effectiveness.

However, a discrepancy emerges between the internal control system's maturity and the integrity outcomes. While the maturity level suggests moderate strength in governance practices, the corresponding integrity score indicates that these mechanisms may not be translating effectively into improved ethical behavior or reduced corruption risks. This misalignment underscores a critical challenge: robust internal controls alone may be insufficient unless they are actively internalized within organizational culture and accompanied by leadership commitment, transparency, and enforcement mechanisms. Ideally, a well-integrated internal control framework should contribute to a culture of accountability, thereby elevating both individual and institutional integrity. To explore these dynamics further, a correlation analysis was conducted to examine the relationships between the independent variables—corrupt practices, internal audits, risk management, and internal control systems—and the dependent variable, integrity. As shown in Table 2, the analysis found no statistically significant correlations, with all p-values exceeding the 5% significance threshold. This indicates that the variables assessed do not independently account for the variation in integrity levels across central government agencies.

**Table 2.** Results of the Spearman Rank Test in the Central Government

| Variables | Y | X1 | X2 | X3 | X4 |
|---|---|---|---|---|---|
| Y | 1.000 | | | | |
| X1 | 0.201 | 1.000 | | | |
| | 0.067 | ----- | | | |
| X2 | 0.083 | 0.539 | 1.000 | | |
| | 0.455 | 0.000 | ----- | | |
| X3 | **0.171** | 0.466 | **0.491** | 1.000 | |
| | 0.119 | 0.000 | 0.000 | ----- | |
| X4 | 0.209 | 0.395 | 0.396 | 0.249 | 1.000 |
| | 0.056 | 0.000 | 0.000 | 0.000 | ----- |

Subsequently, panel data regression analysis was performed to examine potential causal relationships while controlling for temporal and institutional effects. Model specification tests identified the Random Effects Model (REM) as the most appropriate for the data structure, based on Hausman, Chow, and Breusch-Pagan test results. Table 3 summarizes the model selection process.

**Table 3.** Selection of The Best Panel Data Model in the Central Government

| Model | Test | Probability (P value) | Criteria | Result |
|---|---|---|---|---|
| CEM vs. FEM | Chow Test | 0.0000 | P value < 0.005 | FEM |
| FEM vs. REM | Hausman Test | 0.3456 | P value > 0.005 | REM |
| REM vs. CEM | Lagrange Multiplier | 0.0017 | P value < 0.005 | CEM |

The hypotheses regarding the effect of independent variables on the dependent variable are tested using the most appropriate model for central government agencies, which is the REM model. Table 4 presents the results, indicating that none of the independent variables has a significant impact on integrity at the 5% significance level (p values greater than 0.05). Notably, the variable internal audit (X2) exhibited a negative coefficient, suggesting a potential inverse relationship with integrity. However, because of its lack of statistical significance, this finding cannot be generalized. The model's coefficient of determination ($R^2$) is 0.0398, indicating that only 3.98% of the variance in integrity can be explained by the independent variables included in the model. This relatively low explanatory power suggests that a substantial proportion of the variation in integrity is influenced by other factors not captured in this study.

**Table 4.** Panel Data Regression Results on the Parameters in the Central Government

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| X1 | 1.284 | 1.063 | 1.208 | 0.231 |
| X2 | −0.689 | 1.033 | −0.667 | 0.507 |
| X3 | 0.289 | 1.778 | 0.163 | 0.871 |
| X4 | 1.049 | 1.204 | 0.871 | 0.386 |
| C | 72.41 | 4.707 | 15.384 | 0.000 |
| Effects Specification | | | | |
| Cross-section random | | | 3.7388 | 0.5398 |
| Idiosyncratic random | | | 3.4518 | 0.4602 |
| Cross-sectional fixed (dummy variables) | | | | |
| Weighted Statistics | | | | |
| R-squared | | | 0.0398 | |
| Durbin–Watson stat | | | 1.9940 | |
| Adjusted R-squared | | | −0.0088 | |
| Significance level at 5%, two-tailed | | | | |

The regression results are consistent with the findings of the Spearman rank correlation test but contradict the initial hypotheses, indicating that internal governance mechanisms—namely risk management (X1), internal audit (X2), internal control systems (X3), and corruption control (X4)—do not significantly influence integrity in central government agencies. This outcome may be attributed to the structural and contextual complexity of these institutions, which operate within large bureaucracies and are subject to multiple internal and external pressures.

While these governance components are formally integrated into the Government Internal Control System (GICS), their implementation appears to be largely compliance-oriented, rather than driven by a commitment to substantive ethical improvement. However, weaknesses in implementation may have hindered the effectiveness of these components, as they are not applied consistently or meaningfully integrated. Internal factors such as leadership and organizational culture significantly impact system effectiveness (Wihatmono et al., 2025). Meanwhile, Alam et al. (2019) found a positive correlation between leadership quality and integrity system practices in the Malaysian public sector. Without strong, integrity-driven leadership, GICS risks becoming a procedural formality rather than a transformative governance tool.

As a result, integrity is not fully institutionalized within organizational culture nor embedded in governance practices. This is further evidenced by the apparent disconnect between system maturity and integrity outcomes. According to the 2023 Corruption Monitoring Reports by the KPK

and BPKP, central agencies achieved a maturity level of 3 (classified as "well-integrated") in all four internal control components. Yet, the average integrity score remained in the "alert" category (below 77.9), suggesting that structural readiness has not translated into ethical performance. This discrepancy underscores a gap between system design and its practical effectiveness in promoting institutional integrity.

Moreover, external factors, such as political interference and public pressure, may also constrain the effectiveness of internal control systems. Umar et al. (2025) find that political interests significantly mediate the relationship between internal controls and financial management, suggesting that similar dynamics may be at play in the context of integrity. Political influence can override or weaken internal governance mechanisms, making it more difficult for agencies to foster a culture of integrity and accountability.

This observed anomaly requires additional research and deeper analysis. The findings suggest that improving formal system scores alone may be insufficient to enhance integrity in central government agencies. This underscores the complexity of integrity issues in the public sector and highlights the need for a more comprehensive approach. Additionally, these results provide a basis for evaluating the effectiveness of internal audits, internal control systems, risk management, and corruption prevention measures, as well as assessing the mechanisms used to measure system implementation and integrity outcomes.

**Regional Government Agencies**

Regional governments (including provincial, city, and district administrations) operate under the supervision of the central government. Due to the large number of regional entities, the scale of public administration at this level far exceeds that of the central government. However, this expansion has also been accompanied by persistent integrity challenges. According to KPK (2024), regional governments account for the highest number of corruption cases, with 812 recorded incidents, representing 51.09% of total cases. This trend is reinforced by the 2023 Government Internal Control System (SPI) report, which classified 86% of regional governments as vulnerable (integrity scores <72.9). Alarmingly, in 2024, the situation deteriorated further, with 100% of regional governments falling into the vulnerable category (KPK, 2025). These findings underscore systemic challenges in fostering ethical governance at the local level.

One major contributing factor is the weak enforcement of integrity among regional leaders and officials. Between 2010 and 2018, 253 regional heads were named corruption suspects (Zabar, 2022), a figure that has continued to increase through 2024. High political campaign costs, including vote buying, remain a primary driver of corruption among regional heads, as reported by the Indonesia Corruption Watch (ICW). According to Linda et al. (2024), effective corruption prevention in regional governments requires not only structural reform but also strong leadership commitment and a focus on human resource integrity.

The regional government agencies have adopted an integrated internal control system, incorporating internal audits, risk management, internal control mechanisms, and measures to control corruption. However, significant disparities remain in the maturity levels of implementation. The 2023 Corruption Monitoring Report by KPK and BPKP highlights significant maturity gaps among vulnerable regional governments: risk management and corruption control remain at level 2, while internal audit and internal control systems have reached level 3. These levels indicate partial integration but also reveal inconsistencies in practice and effectiveness. Such findings suggest that internal control maturity does not necessarily correspond with improved integrity outcomes. For example, a level 3 internal audit function should theoretically provide

reliable assurance regarding compliance also the principles of economy, efficiency, and effectiveness, along with early warning mechanisms. Similarly, a level 3 internal control system should imply well-documented and effectively implemented procedures. Yet, the continued low integrity scores indicate that these systems may not be functioning as intended, or that they are being implemented in a perfunctory rather than transformational manner.

To address these challenges, the Corruption Eradication Commission (KPK), the Ministry of Home Affairs (Kemendagri), and BPKP have collaborated on the development of the Monitoring Center for Prevention (MCP). This tool monitors anti-corruption efforts across eight key governance domains: budget planning, public services, internal supervision (APIP), civil service management, regional asset management, public procurement, and local tax optimization. MCP serves not only as a reporting tool but also as a platform to enhance transparency, accountability, and performance oversight in regional government institutions. However, the extent to which MCP implementation leads to measurable improvements in integrity remains a critical area for further study.

The results of the correlation analysis for regional governments indicate a statistically significant and meaningful association between all independent variables and the dependent variable, integrity. Each independent variable—including risk management, internal audit, internal control systems, and corruption control—shows a positive correlation with integrity. Notably, the internal control system variable (X3) exhibits the strongest correlation coefficient at 0.416, indicating a moderate to strong relationship (see Table 5). This finding suggests that improvements in internal control systems may have a substantial impact on strengthening integrity within regional government institutions; however, the presence of other contributing factors should not be overlooked.

**Table 5.** Results of the Spearman Rank Test in the Regional Government

| Variables | Y | X1 | X2 | X3 | X4 |
|---|---|---|---|---|---|
| Y | 1.000 | | | | |
| X1 | 0.194 | 1.000 | | | |
| | 0.000 | ----- | | | |
| X2 | 0.308 | 0.330 | 1.000 | | |
| | 0.000 | 0.000 | ----- | | |
| X3 | 0.416 | 0.393 | 0.457 | 1.000 | |
| | 0.000 | 0.000 | 0.000 | ----- | |
| X4 | 0.238 | 0.407 | 0.314 | 0.325 | 1.000 |
| | 0.000 | 0.000 | 0.000 | 0.000 | ----- |

To further examine these relationships, panel data regression testing was conducted. The analysis identified the FEM as the most appropriate estimation method for evaluating the influence of internal control variables on integrity in regional governments. The model selection process, including comparative testing, is summarized in Table 6.

**Table 6.** Selection of The Best Panel Data Model in the Regional Government

| Model | Test | Probability (P value) | Criteria | Result |
|---|---|---|---|---|
| CEM vs. FEM | Chow Test | 0.0000 | P value < 0.005 | FEM |
| FEM vs. REM | Hausman Test | 0.0000 | P value < 0.005 | FEM |
| REM vs. CEM | Lagrange Multiplier | 0.0000 | P value < 0.005 | REM |

The hypotheses regarding the effects of the independent variables on the dependent variable were tested using the most appropriate model identified for regional government agencies. Table 7 presents the results of the hypothesis testing, indicating that risk management, internal control systems, and corruption control each exert a statistically significant positive effect on integrity, with p-values below the 5% significance threshold ($p < 0.05$). These findings suggest that improvements in these components contribute meaningfully to enhancing institutional integrity at the regional level. In contrast, the internal audit variable (X2) yielded a p-value greater than 0.05, implying that it does not have a statistically significant effect on integrity in this context. This result diverges from prior expectations and highlights a potential weakness in the implementation or effectiveness of internal audit mechanisms within regional government agencies. Future research is warranted to explore this inconsistency, particularly by assessing the functional capacity, independence, and operational quality of internal audit units in local governance environments.

**Table 7.** Panel Data Regression Results on the Parameters in the Regional Government

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| X1 | 0.102 | 0.018 | 5.485 | 0.000 |
| X2 | −0.017 | 0.017 | −0.983 | 0.326 |
| X3 | 0.962 | 0.029 | 33.686 | 0.000 |
| X4 | 0.500 | 0.017 | 29.078 | 0.000 |
| C | 67.500 | 0.088 | 763.529 | 0.000 |
| Effects Specification | | | | |
| Cross-sectional fixed (dummy variables) | | | | |
| Weighted Statistics | | | | |
| R-squared | 0.9999 | | | |
| Durbin–Watson stat | 3.9910 | | | |
| Adjusted R-squared | 0.9998 | | | |
| F-statistic | 10,933.97 | | | |
| Prob(F-statistic) | 0.0000 | | | |
| Significance level at 5%, two-tailed | | | | |

The analysis reveals that risk management (X1) has a statistically significant positive effect on integrity in regional government agencies. With a coefficient of 0.102 and a p-value of 0.000 ($p < 0.05$), the findings confirm that enhanced risk management practices are associated with higher levels of integrity. This supports prior research by Johari et al. (2021), which emphasized risk management as a driver of integrity in the public sector. Through early identification and mitigation of fraud and corruption risks, effective risk management enables agencies to implement safeguards before vulnerabilities escalate. Moreover, risk management instills a culture of awareness and accountability across all organizational levels, thereby reinforcing ethical governance.

In contrast, the internal audit variable (X2) did not show a statistically significant effect on integrity. The coefficient was −0.017 with a p-value of 0.3263 ($p > 0.05$), indicating that internal audit (APIP) does not significantly influence integrity within regional government agencies in the current model. This aligns with earlier studies, such as Sari et al. (2017), which reported a limited impact of internal audit on accountability. Theoretically, APIP should serve as a key internal oversight mechanism, enhancing transparency, compliance, and public trust (Marnani et al., 2023; Bua et al., 2024; Saputra & Firmansyah, 2024). However, based on systems theory, the lack of significant impact may suggest dysfunction within the internal control subsystem. If APIP fails to deliver value, due to under-resourcing, limited independence, inadequate training, or a compliance-

only focus, it cannot effectively promote integrity.

This limitation can be understood from both internal and external perspectives. The internal audit function may be underperforming due to insufficient human resources, budget constraints, weak independence, inadequate training, or an approach that remains administrative and procedural (Sari, 2022; Nopirina, 2023; Saputra & Firmansyah, 2024). This may also reflect an indirect role played by internal audits, such as supporting risk management or control systems, which could dilute their isolated effect in the regression model. Additional factors, such as leadership quality, organizational culture, and external pressures (e.g., political interference), may exert a stronger influence on integrity outcomes. Therefore, the lack of significance should not be interpreted as dismissing APIP's importance. Rather, it points to the need to enhance APIP's capacity, independence, and strategic alignment with integrity objectives. Notably, the internal audit function remains a priority area under the MCP, indicating institutional recognition of its current limitations (Wibisono, 2024).

The findings also confirm that the internal control system (X3) has a strong and statistically significant positive effect on integrity. With a coefficient of 0.962 and a p-value of 0.000, the results indicate that robust and mature internal control mechanisms play a vital role in promoting institutional integrity. Effective control systems create a well-regulated organizational environment that reduces opportunities for fraud and promotes accountability. These findings are consistent with Dian et al. (2024), who found that internal control systems, while primarily designed for fraud prevention, indirectly enhance organizational integrity by fostering an antifraud culture and reinforcing ethical practices.

Lastly, the corruption control variable (X4) was also found to have a significant positive relationship with integrity. The coefficient of 0.017 and a p-value of 0.000 indicate that improved effectiveness in corruption control strategies is associated with higher integrity such as the Integrity Evaluation for Corruption Control (IEPK) developed by BPKP, ensure that anti-corruption frameworks are structured, functional, and continuously improved. Nurhasanah (2016) emphasizes that sound internal control systems act as effective deterrents against corruption, thereby creating an institutional climate that supports sustainable integrity across both individual and organizational dimensions.

## Comparative Analysis of the Effect of Integrated Internal Control Systems on Integrity in Central and Regional Government Agencies

Comparative studies play a vital role in advancing governance practices by highlighting the similarities and differences in institutional performance across contexts. Utilizing both panel data regression analysis and Spearman rank correlation, the study identifies and contrasts the influence of these internal control components on institutional integrity in the two administrative settings. Table 8 presents the summary of comparative findings, highlighting key distinctions in the significance, direction, and strength of each factor's influence. The results offer an evidence-based foundation for targeted policy interventions and capacity-building strategies tailored to each governance level.

Panel data analysis reveals notable disparities in how the integrated internal control system influences integrity across central and regional government agencies. At the central government level, none of the independent variables (risk management, internal audit, internal control systems, or corruption control) demonstrates a statistically significant impact on integrity. The low R-squared value of 0.0398 indicates that the model explains only a small fraction of the variance in integrity outcomes, suggesting the presence of unmeasured factors or structural limitations in the

implementation of internal control mechanisms. In contrast, the regional government model yields more robust results. Three independent variables—risk management (X1), internal control systems (X3), and corruption control (X4)—exhibit statistically significant positive effects on integrity. Although internal audit (X2) does not show significance and is negatively associated, the overall model demonstrates an exceptionally strong explanatory power, with an R-squared value of 0.999910. This finding suggests a high degree of model fit and implies that the integrated internal control system is functioning more effectively in influencing integrity at the regional level.

**Table 8.** The Summary of Comparative Findings

| Independent Variable | Central Government Agencies | | Regional Government Agencies | |
|---|---|---|---|---|
| | Spearman Test Results | Panel Data Regression Results | Spearman Test Results | Panel Data Regression Results |
| X1 | Uncorrelated | Not significant | Correlated | Significantly positive |
| X2 | Uncorrelated | Negative and not significant | Correlated | Negative and not significant |
| X3 | Uncorrelated | Not significant | Correlated | Significantly positive |
| X4 | Uncorrelated | Not significant | Correlated | Significantly positive |
| R-squared | Very weak | | Very strong | |

These contrasting outcomes can be understood through the lens of systems theory and institutional context. Central government agencies are often embedded within larger, more complex bureaucratic structures, where overlapping mandates, hierarchical rigidity, and political dynamics can dilute the effectiveness of internal control systems. Conversely, regional governments, characterized by leaner organizational structures and closer working relationships, may facilitate more efficient implementation of control systems, thereby exerting a stronger influence on organizational culture and integrity.

# CONCLUSION

This study reveals that the effectiveness of an integrated internal control system in promoting integrity varies significantly between central and regional government agencies. In regional governments, risk management, internal control systems, and corruption control show a statistically significant also positive influence on organizational integrity. However, internal audit (APIP) does not exhibit a similar effect. From a systems theory perspective, this finding suggests a dysfunction within the internal audit subsystem, where APIP's presence fails to contribute meaningfully to integrity reinforcement. The internal audit function may lack sufficient independence, resources, or strategic orientation, limiting its value in supporting ethical governance.

Conversely, in central government agencies, none of the integrated control system components, including internal audit, risk management, internal control systems, and corruption control, demonstrate a significant impact on integrity. This may be attributed to institutional complexity, fragmented implementation, or a predominantly compliance-oriented application of internal control measures. Without meaningful integration into decision-making and governance processes, the internal control system risks becoming a formality rather than a catalyst for reform and integrity enhancement.

These findings underscore the need for tailored improvement strategies. Regional governments should prioritize strengthening their internal audit capabilities by enhancing APIP professionalism, ensuring operational independence, allocating adequate resources, and focusing

on high-risk areas. Central government agencies, on the other hand, must reorient their internal control approach from a procedural compliance model toward a more integrated and performance-driven framework that promotes integrity as a core governance value. More broadly, this study underscores the importance of structural and behavioral reforms to ensure that internal control systems function not merely as regulatory tools but as dynamic mechanisms for institutional integrity and anti-corruption efforts. It also suggests that current assessment frameworks employed by BPKP and KPK could benefit from better integration and alignment to enhance their diagnostic value and support systemic governance improvements.

This study has limitations, including the exclusion of potentially influential mediating variables such as leadership quality, organizational culture, and political influence. Future studies should adopt more comprehensive analytical models, such as structural equation modeling, to explore indirect pathways and mediating effects. Additionally, qualitative insights from expert interviews could enrich the understanding of contextual factors underlying the implementation gaps identified in this study.

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