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The Effect of Internal Control Systems and Integrity Zones on Fraud Prevention: The Moderating Role of Transformational Leadership

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Abstract: This study aims to examine fraud prevention in Indonesian government institutions by analyzing the influence of internal control systems and integrity zones, as well as the moderating role of transformational leadership. The population consists of civil servants working in a central government ministry that has implemented integrity zone initiatives. Using purposive sampling, 375 valid responses were obtained from employees involved in financial management, supervision, and administrative functions. A quantitative approach was applied through structured questionnaires, and data were analyzed using variance-based structural equation modeling. The results indicate that internal control systems have a positive and significant effect on fraud prevention by enhancing transparency and accountability. Integrity zones also demonstrate a significant positive influence by strengthening governance and promoting anti-corruption values. Transformational leadership does not significantly moderate the relationships between internal control systems, integrity zones, and fraud prevention. These findings suggest that fraud prevention in government institutions is more strongly associated with formal governance mechanisms, highlighting the importance of strengthening internal controls and integrity-based reforms to enhance anti-fraud effectiveness.

Keywords: Internal control system, Integrity zone, Fraud prevention, Transformational leadership, Public sector.

INTRODUCTION

Fraud represents a critical threat to organizational governance through the abuse of authority for personal or collective gain (ACFE, 2024). The Association of Certified Fraud Examiners reports that corruption constitutes the most prevalent fraud scheme globally, accounting for approximately 48 percent of cases. Such dominance underscores that fraud extends beyond financial losses, undermining organizational effectiveness and eroding public trust in formal institutions (ACFE, 2024).

Fraud risk in Indonesia remains significant. Transparency International (2024) reports a Corruption Perceptions Index score of 37 out of 100, ranking Indonesia 99th among 180

countries, below regional peers such as Malaysia and Singapore. Data from the Corruption Eradication Commission indicate that corruption cases are concentrated within central government ministries and agencies (KPK, 2024). Bureaucratic complexity, multi-actor involvement, and substantial public budget allocations increase exposure to misconduct when governance and oversight mechanisms are ineffective. This vulnerability is particularly consequential in strategic sectors contributing approximately 12–13 percent to national Gross Domestic Product (Aberth and Aberth, 2024).

State losses due to corruption reached approximately IDR 310.61 trillion in 2024(Indonesia Corruption Watch, 2024). Beyond financial damage, fraud generates reputational decline, legal uncertainty, and weakened bureaucratic accountability (Karpoff, 2021; Khikmah et al., 2023; Maulidiyah, 2024; Rahman and Jie, 2024). These consequences position fraud prevention as a strategic governance priority, as preventive mechanisms reduce opportunities for misconduct at an early stage (Albercht, 2012; Handayani & Kawedar, 2021).

Fraud Triangle Theory identifies opportunity as the central determinant of fraud, particularly when internal controls operate ineffectively (Cressey, 1953; COSO, 2012). Internal control systems are therefore designed to ensure operational effectiveness, reporting reliability, regulatory compliance, and risk mitigation. In Indonesia, the Government Internal Control System regulated under Government Regulation No. 60 of 2008 functions as a core accountability instrument. Empirical evidence supports a positive association between internal control systems and fraud prevention (Yuniarti, 2017 Koomson et al., 2020; Lubis et al., 2024). However, effectiveness declines when implementation remains procedural and lacks substantive leadership commitment (Herawaty and Hernando, 2021; Jalil, 2018).

Bureaucratic reform introduced Integrity Zones to institutionalize clean and service-oriented governance through strengthened oversight, transparency, and value internalization (Permenpanrb 90/2021 Tentang Pembangunan Dan Evaluasi Zona Integritas Menuju Wilayah Bebas Dari Korupsi Dan Wilayah Birokrasi Bersih Dan Melayani, 2021). Integrity Zones contribute to governance strengthening and fraud prevention (Niravita et al., 2023), yet some studies report symbolic implementation without substantive behavioral transformation (Kadir and Laela, 2023; Trisia and Azairin, 2024). These mixed findings suggest that formal governance mechanisms alone may be insufficient to ensure effective fraud prevention.

Institutional Theory explains that organizations adopt governance structures in response to coercive, normative, and mimetic pressures to secure legitimacy (Dimaggio and Powell, 1983; Scott, 2014; Lubis et al., 2024; Maulani et al., 2024). The effectiveness of internal controls and Integrity Zones is therefore contingent not only on structural design but also on behavioral factors. Transformational leadership fosters ethical internalization and anti-fraud culture through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass and Avolio, 1995; Riggio, 2006). Empirical findings demonstrate its role in strengthening governance implementation (Pratiwi et al., 2020; Khikmah et al., 2023), although inconsistent effects have been observed in contexts characterized by cultural resistance and weak supervision (Natalia and Nuryatno, 2024; Surya and Firmansyah, 2024).

Prior studies predominantly examine internal controls, institutional integrity programs, and leadership independently. The interactive mechanism between formal governance structures and organizational behavioral factors remains underexplored in public sector fraud prevention literature. This study addresses this gap by developing an integrative model that simultaneously examines internal control systems and Integrity Zones with transformational leadership as a moderating mechanism. By integrating Fraud Triangle Theory and Institutional Theory, this research advances theoretical understanding of structural behavioral interaction in fraud prevention and provides practical implications for strengthening governance effectiveness in public institutions.

Theoretical Foundation: Structural Behavioral Interaction in Fraud Prevention

Fraud prevention in public sector organizations can be understood through the interaction between structural governance mechanisms and organizational behavioral processes. Fraud Triangle Theory posits that fraud arises when pressure, opportunity, and rationalization converge, with opportunity representing the primary structural condition enabling misconduct (Cressey, 1953; COSO, 2012). Weak monitoring systems and ineffective internal controls create discretionary space that increases fraud risk. Strengthening governance structures is therefore essential to constrain opportunity and reduce misconduct.

Institutional Theory complements this explanation by clarifying why governance mechanisms are adopted and how they function within organizational environments. Organizations implement control systems and integrity reforms in response to coercive, normative, and mimetic pressures to maintain legitimacy and conform to regulatory expectations (Dimaggio & Powell, 1983; Scott, 2014; Lubis et al., 2024; Maulani et al., 2024). However, institutional adoption does not automatically guarantee substantive effectiveness. Governance mechanisms may remain symbolic if not deeply internalized within organizational practices.

The integration of these perspectives suggests that fraud prevention effectiveness depends on structural behavioral alignment: structural governance mechanisms reduce fraud opportunity, while behavioral processes determine whether institutional reforms operate substantively rather than symbolically.

Internal Control Systems and Fraud Prevention

Internal Control Systems are structured procedures designed to ensure operational effectiveness, regulatory compliance, and risk mitigation (COSO, 2012). From the perspective of Fraud Triangle Theory, internal controls directly constrain the opportunity element by reducing weaknesses that allow misconduct to occur (Cressey, 1953). Within Institutional Theory, the implementation of internal controls reflects coercive regulatory pressures requiring accountability and transparency (Dimaggio and Powell, 1983). Empirical evidence consistently indicates that stronger internal control systems enhance fraud prevention(Yuniarti, 2017; Koomson et al., 2020; Lubis et al., 2024). Nevertheless, their effectiveness may decline when implementation is limited to formal compliance without substantive organizational commitment (Jalil, 2018; Herawaty and Hernando, 2021).

H1: Internal Control Systems positively influence fraud prevention.

Integrity Zones and Fraud Prevention

Integrity Zones represent institutional governance reforms aimed at strengthening transparency, accountability, and anti-corruption practices in public organizations (Permenpanrb 90/2021 Tentang Pembangunan Dan Evaluasi Zona Integritas Menuju Wilayah Bebas Dari Korupsi Dan Wilayah Birokrasi Bersih Dan Melayani, 2021). Within Institutional Theory, Integrity Zones reflect responses to coercive and normative pressures that encourage alignment with clean governance standards (Dimaggio and Powell, 1983; Scott, 2014). By reinforcing monitoring systems and governance procedures, Integrity Zones are expected to reduce fraud opportunity and enhance institutional credibility (Niravita et al., 2023). However, prior research indicates that reform initiatives may become symbolic when not supported by consistent implementation and organizational internalization (Kadir and Laela, 2023; Trisia and Azairin, 2024).

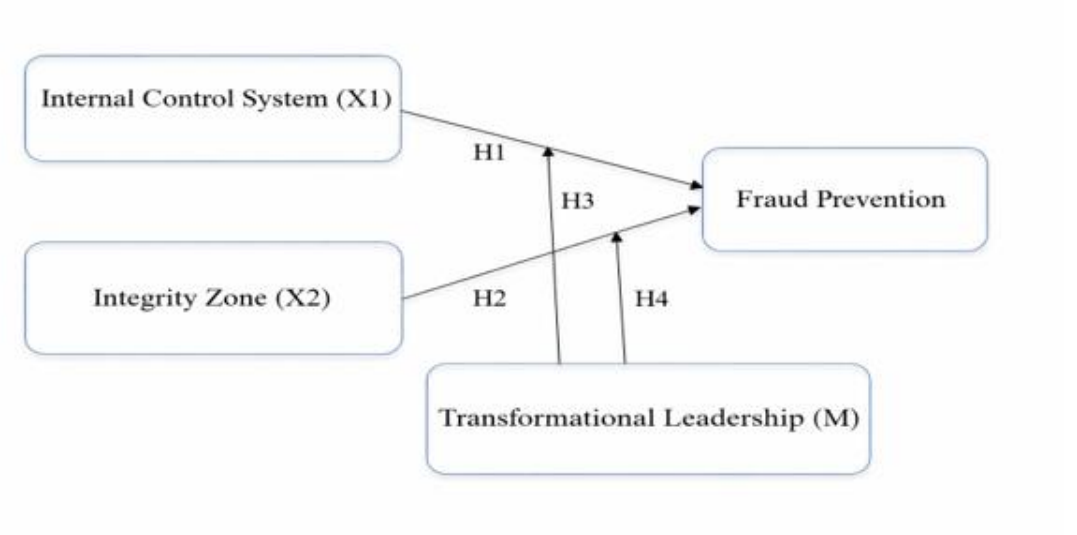
H2: Integrity Zones positively influence fraud prevention**.**

The Moderating Role of Transformational Leadership

Mechanisms are enacted rather than replacing them as primary structural determinants. Transformational leaders foster ethical commitment, strengthen oversight culture, and motivate employees to internalize organizational values beyond procedural obligation (Bass and Avolio, 1995; Riggio, 2006). Empirical findings demonstrate that transformational leadership enhances governance implementation and integrity culture (Pratiwi et al., 2020 Khikmah et al., 2023), although its direct impact on fraud prevention may vary across contexts (Natalia and Nuryatno, 2024; Surya and Firmansyah, 2024). Within the structural–behavioral framework, formal governance mechanisms establish boundaries that constrain fraud opportunity, while leadership determines the depth of internalization within those boundaries. Transformational leadership therefore operates as a moderating mechanism that conditions the effectiveness of internal control systems and Integrity Zones in reducing fraud risk. By strengthening ethical internalization and implementation consistency, leadership enhances the effectiveness of structural governance mechanisms.

H3: Transformational leadership strengthens the relationship between Internal Control Systems and fraud prevention.

H4: Transformational leadership strengthens the relationship between Integrity Zones and fraud prevention.



Source: Research Results,2026

Figure 1. Conceptual Framework

METHODS

This study employed purposive sampling within a non-probability framework to select respondents who met criteria aligned with the research objectives (Sekaran & Bougie, 2016). Data were collected through an online questionnaire administered between November and December 2025. The respondents were civil servants with a minimum of one year of work experience and assigned to work units that had received an Integrity Zone designation as either a Corruption-Free Area or a Clean and Service-Oriented Bureaucratic Area (Permenpanrb 90/2021 Tentang Pembangunan Dan Evaluasi Zona Integritas Menuju Wilayah Bebas Dari Korupsi Dan Wilayah Birokrasi Bersih Dan Melayani, 2021).

A total of 375 usable responses were retained for analysis. The study variables were measured using a five-point Likert scale. All measurement items were adapted from previously validated and reliable studies and refined to fit the public sector context to ensure relevance and content validity. Prior to full distribution, a pilot test was conducted to assess clarity, consistency, and reliability of the instrument.

Table 1. Variable Operationalization Measuring

Variable	Measurement Indicator	Source
Internal Control System	Control Environment	Otoo et al. (2023)
	Risk Assessment	
	Control Activities	
	Information and Communication	
	Monitoring Activities	
Zona Integrity	Enabling Components.	Deviyanti and Bintoro (2021)
	Outcome Components.	
Transformasional Leadership	Idealized Influence	Bass and Avolio (1995)
	Inspirational Motivation	
	Intellectual Stimulation	
	Individualized Consideration	
Fraud Prevention	Promoting a Culture of Honesty and High Ethical Standards	Sow et al. (2018)
	Evaluation of Fraud Prevention Processes and Controls	
	Development of Effective Monitoring Mechanisms	

Source: Research data, 2026

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RESULTS AND DISCUSSION

Results

This section presents the empirical findings of the study. The analysis begins with the demographic characteristics of the respondents to provide contextual insight into the sample

Tabel 2. Characteristics of the respondent

Description	Frequency	Percentage
Gender		
Male	187	49.9
Female	188	50.1
Education Level		
Doctoral Degree	4	1,1
Master's Degree	106	28,3
Diploma/Bachelor's Degree	203	54,1
Senior High School	62	16,5
Years of Service	70	18.7
1-5 years		
5-10 years	69	18,4
10-15 years	91	24,3
>15 years	145	38,7

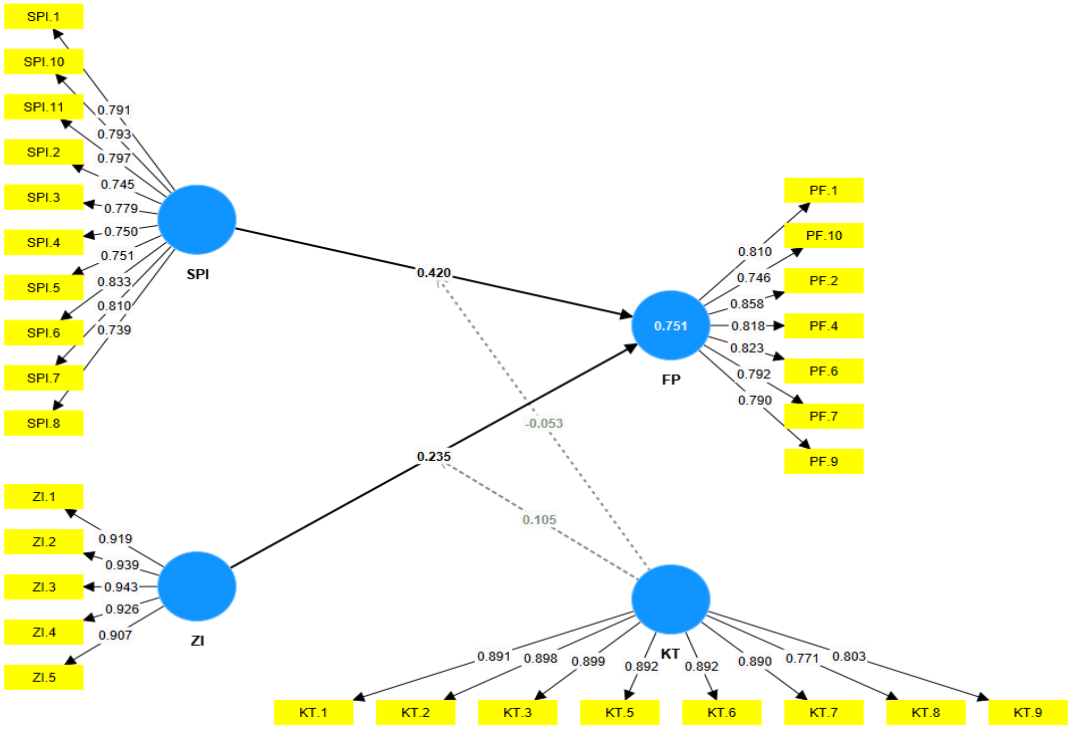
Source: Research data, 2026

As shown in Table 2, the gender distribution was relatively balanced, with 49.9% male and 50.1% female respondents. Most participants held a Diploma or Bachelor's degree (54.1%), followed by a Master's degree (28.3%). In terms of work experience, the largest proportion had more than 15 years of service (38.7%), indicating substantial organizational experience among respondents.

Evaluation of the Measurement Model (Outer Model)

The measurement model was evaluated in three stages: convergent validity, discriminant validity, and reliability assessment (Hair, 2019). Convergent validity was assessed using outer loadings and Average Variance Extracted (AVE). The initial loading assessment identified five indicators SPI9 (0.210), KT4 (0.274), FP3 (0.258), FP5 (0.222), and FP8 (0.291) with outer loadings below the recommended threshold of 0.70; these indicators were therefore removed to improve construct validity. After re-estimation, all remaining indicators exceeded 0.70 and all constructs achieved AVE values above 0.50, indicating satisfactory convergent validity. Composite Reliability and Cronbach's Alpha values also surpassed the 0.70 threshold,

confirming internal consistency reliability. The final SEM-PLS results are presented in Figure 2, while detailed validity and reliability statistics are summarized in Table 3.



Source: Research Results,2026

Figure 2. SEM-PLS Results

Table 3. Convergent Validity results

Construction	Indicator	Outer Loading	AVE
Internal Control System	SPI.1	0.791	0.608
	SPI.2	0.745	
	SPI.3	0.779	
	SPI.4	0.750	
	SPI.5	0.751	
	SPI.6	0.833	
	SPI.7	0.810	
	SPI.8	0.739	
	SPI.10	0.793	
	SPI.11	0.797	
Integrity Zone	ZI.1	0.918	0.859
	ZI.2	0.939	
	ZI.3	0.943	
	ZI.4	0.926	
	ZI.5	0.907	
Transformational Leadership	KT.1	0.891	0.754
	KT.2	0.898	
	KT.3	0.899	
	KT.5	0.892	
	KT.6	0.892	
	KT.7	0.890	
	KT.8	0.771	
	KT.9	0.803	
Fraud Prevention	FP.1	0.810	0.650
	FP.2	0.858	
	FP.4	0.818	

	FP.6	0.823
	FP.7	0.792
	FP.9	0.790
	FP.10	0.746

Source: Research Results,2026

The measurement model demonstrates satisfactory convergent validity. All outer loadings exceed the recommended threshold of 0.70, indicating adequate indicator reliability. The Internal Control System (ICS) construct shows loadings ranging from 0.739 to 0.833, with an AVE of 0.608. Integrity Zone (IZ) exhibits loadings between 0.907 and 0.943, with an AVE of 0.859. Transformational Leadership (TL) reports loadings from 0.771 to 0.899 and an AVE of 0.754, while Fraud Prevention (FP) presents loadings between 0.746 and 0.858 with an AVE of 0.650. All AVE values exceed the 0.50 threshold, confirming convergent validity (Hair et al., 2022).

Discriminant validity was assessed using the Heterotrait - Monotrait Ratio (HTMT). All HTMT values are below the recommended threshold of 0.90, indicating adequate discriminant validity and confirming that the constructs are conceptually distinct (Hair, 2019). Therefore, the measurement model is considered satisfactory and appropriate for structural model evaluation.

Tabel 4. Discriminant validity test using the Heterotrait–Monotrait Ratio (HTMT) results

	FP	KT	SPI	ZI	KT x SPI	KT x ZI
FP						
KT	0.853					
SPI	0.897	0.867				
ZI	0.790	0.765	0.831			
KT x SPI	0.406	0.481	0.457	0.397		
KT x ZI	0.351	0.404	0.413	0.548	0.745	

Source: Research Results,2026

Discriminant validity was further assessed using the Heterotrait - Monotrait Ratio (HTMT). All HTMT values were below the recommended threshold of 0.90, indicating satisfactory discriminant validity (Hair, 2019). The highest HTMT value was observed between the Internal Control System (ICS) and Transformational Leadership (TL) constructs (0.897), while other relationships showed lower values, such as Fraud Prevention (FP) and Integrity Zone (IZ) (0.790), and Integrity Zone (IZ) and Transformational Leadership (TL) (0.765). These results confirm adequate conceptual distinctiveness among the constructs.

Reliability was assessed using Composite Reliability and Cronbach's Alpha. As shown in Table 5, all values exceeded the recommended threshold of 0.70, indicating satisfactory internal consistency reliability (Hair, 2019).

Tabel 5. Reliability results

Variable	*Composite Reliability*	*Crobach's alpha*	Information
Internal Control System	0.939	0.928	Reliabel
Integrity Zone	0.968	0.959	Reliabel
Transformational Leadership	0.961	0.953	Reliabel
Fraud Prevention	0.928	0.910	Reliabel

Source: Research Results,2026

The reliability assessment indicates that all constructs exhibit Composite Reliability values ranging from 0.928 to 0.968. The Integrity Zone construct reports the highest value

(0.968), while Fraud Prevention shows a value of 0.928. Cronbach's Alpha values also exceed the recommended threshold of 0.70, ranging from 0.910 to 0.959. These results demonstrate satisfactory internal consistency reliability (Hair, 2019). Overall, the findings confirm that all constructs meet the recommended reliability criteria and are appropriate for subsequent structural model evaluation·

Structural Model Evaluation (Inner Model)

Coefficient of Determination (R2)

The structural model was evaluated using the coefficient of determination (R^2). As shown in Table 6, the R^2 value for Fraud Prevention is 0.751, indicating that the independent variables explain 75.1% of its variance. According to Hair, (2019), this value can be categorized as substantial, suggesting strong explanatory power of the model. The Adjusted R^2 value of 0.748 is consistent with the R^2 result, indicating model stability after accounting for the number of predictors included in the analysis.

Tabel 6. Determination Coefficient Results

Model Construction	R-square	Adjusted R-square
Fraud Prevention	0.751	0.748

Source: Research Results,2026

Hypothesis Testing (t-test)

The structural relationships were evaluated using the SEM-PLS approach by estimating path coefficients and assessing their significance through bootstrapping procedures. Hypotheses are considered supported when the path coefficient is statistically significant (p-value < 0.05) and consistent with the hypothesized direction (Hair, 2019). The same criterion was applied in evaluating the moderating effects. Table 7 summarizes the path coefficients, significance levels, and moderation results.

Tabel 7. Hyphotesis testing result

Variable	Coefficients	t-statistic	p-value	Description
SPI→ FP	0.420	6.120	0.000	**H1 accepted**
ZI → FP	0.235	3.518	0.000	**H2 accepted**
KT x SPI → FP	-0.053	0.980	0.327	**H3 rejected**
ZI x SPI → FP	0.105	1.877	0.061	**H4 rejected**

Source: Research Results,2026

Table 7 presents the results of hypothesis testing. The findings indicate that the Internal Control System has a positive and significant effect on fraud prevention (coefficient = 0.420, p-value < 0.001), supporting H1. Similarly, the Integrity Zone shows a positive and significant influence on fraud prevention with coefficient of 0.235, p-value < 0.001, supporting H2.

In contrast, the interaction between transformational leadership and the Internal Control System does not have a significant effect on fraud prevention with coefficient of −0.053, p-value of 0.327, leading to the rejection of H3. Likewise, the moderating effect of transformational leadership on the relationship between the Integrity Zone and fraud prevention is not statistically significant with coefficient of 0.105, p-value of 0.061, indicating that H4 is not supported.

Discussion

The Effect of Internal Control System on Fraud Prevention

The Internal Control System has a positive and significant effect on fraud prevention (coefficient = 0.420; t-statistic = 6.120; p-value < 0.001) , supporting H1. This result indicates

that stronger internal control mechanisms contribute to reducing fraud risk within the examined public sector organization. Consistent with Fraud Triangle Theory, effective controls structurally constrain opportunities for misconduct through supervision, segregation of duties, and continuous monitoring (Cressey, 1953; COSO, 2012). From an institutional perspective, the implementation of internal controls reflects compliance with regulatory pressures aimed at strengthening accountability and organizational legitimacy (Dimaggio and Powell, 1983; Scott, 2014). This finding aligns with prior studies demonstrating that internal control systems play a critical role in fraud prevention in the public sector (Yuniarti, 2017; Lubis et al., 2024; Maulani et al., 2024;). However, earlier research also suggests that effectiveness may decline when implementation is merely procedural and lacks substantive ethical commitment and supervisory consistency (Jalil, 2018; Pratiwi et al., 2020; Herawaty and Hernando, 2021). The present results indicate that internal control practices in the examined organization appear to function substantively in supporting fraud prevention efforts.

The Effect of Integrity Zone on Fraud Prevention

The Integrity Zone has a positive and significant effect on fraud prevention (coefficient = 0.235; t-statistic = 3.518; p-value < 0.001), supporting H2. This finding suggests that Integrity Zone implementation contributes to reducing fraud risk by strengthening governance and institutional accountability. From an institutional perspective, the program reflects coercive and normative pressures that drive organizations to align with national integrity standards to secure legitimacy (Dimaggio & Powell, 1983; Scott, 2014; KemenpanRB, 2021;). Consistent with Fraud Triangle Theory, institutionalized integrity practices and enhanced oversight mechanisms constrain opportunities and rationalization for misconduct (Dellaportas, 2013). This result aligns with prior studies demonstrating the contribution of Integrity Zone initiatives to transparency and fraud prevention in the public sector (Niravita et al., 2023). Nevertheless, previous research also warns that such programs may remain symbolic if not substantively internalized (Kadir and Laela, 2023; Trisia and Azairin, 2024). The findings of this study indicate that, in the examined institution, the Integrity Zone appears to operate beyond symbolic compliance and substantively supports fraud prevention efforts.

The Moderating Role of Transformational Leadership in the Relationship between Internal Control System and Fraud Prevention

The interaction between transformational leadership and the Internal Control System is not statistically significant in influencing fraud prevention (coefficient = −0.053; t-statistic = 0.980; p-value = 0.327), indicating that H3 is not supported. This finding suggests that transformational leadership does not condition the effect of internal control mechanisms on fraud prevention within the examined organization. From an institutional perspective, internal control systems in government settings represent formalized and regulatory-driven governance structures shaped predominantly by coercive pressures (Dimaggio & Powell, 1983). In highly institutionalized environments, structural controls may operate independently of individual leadership styles. Consistent with Fraud Triangle Theory, the reduction of fraud opportunities is primarily associated with the robustness of monitoring and control mechanisms. When such mechanisms are already well established, the additional moderating influence of leadership may become less pronounced. This result aligns with findings reported by Natalia and Nuryatno, (2024) and (Surya and Firmansyah, (2024), although it differs from Khikmah et al., (2023), who suggest that transformational leadership can strengthen integrity culture. These mixed findings indicate that the role of leadership in fraud prevention may depend on the degree of institutionalization and structural formalization within the organization.

The Moderating Role of Transformational Leadership in the Relationship between Integrity Zone and Fraud Prevention

The interaction between transformational leadership and the Integrity Zone is not statistically significant at the 5% level (coefficient = 0.105; t-statistic = 1.877; p-value = 0.061), indicating that H4 is not supported. Although the coefficient is positive, the result suggests that transformational leadership does not significantly condition the effect of the Integrity Zone on fraud prevention within the examined organization. From an institutional perspective, the Integrity Zone represents a nationally regulated reform program characterized by formal evaluation mechanisms and systemic accountability pressures (Scott, 2014). In highly institutionalized settings, program effectiveness may be driven primarily by structural compliance and standardized governance procedures rather than by variations in individual leadership style. In line with Fraud Triangle Theory, the reduction of fraud opportunity and rationalization through Integrity Zone implementation depends largely on embedded supervision systems and formalized integrity mechanisms. This finding aligns with (Wibiastika and Darma, 2024), who argue that Integrity Zone initiatives may become administratively oriented, thereby limiting the incremental role of leadership in reinforcing implementation. However, (Agustina et al., 2025) suggest that leadership can facilitate the internalization of WBK/WBBM values under certain organizational conditions. These mixed findings indicate that the moderating influence of transformational leadership in Integrity Zone implementation appears to be context-dependent and empirically contingent upon the level of institutionalization within the organization.

CONCLUSION

The findings demonstrate that internal control systems and Integrity Zones significantly enhance fraud prevention in Indonesian public sector organizations. These results underscore the central role of structural governance mechanisms in constraining fraud risk through systematic monitoring, formalized risk management, and institutionalized integrity practices. The evidence reinforces Fraud Triangle Theory by highlighting the primacy of opportunity reduction and extends Institutional Theory by illustrating how regulatory and legitimacy pressures translate into formalized governance structures that shape organizational behavior. The absence of significant moderating effects indicates that, within highly institutionalized and regulation-driven public sector environments, fraud prevention appears to be predominantly determined by structural governance design rather than leadership-driven behavioral variation. This suggests that when formal controls and institutional programs are deeply embedded, the incremental amplifying role of leadership becomes limited.

Theoretically, this study contributes by advancing an integrated structural institutional framework of fraud prevention and by empirically demonstrating the conditional and context-dependent nature of leadership influence in bureaucratic settings. Practically, the findings emphasize the importance of strengthening substantive internal control implementation and ensuring that Integrity Zone initiatives function beyond administrative compliance.

This study is limited by its reliance on perception-based measures and its focus on a single public institution. Future research should extend the analysis across multiple organizations, incorporate objective indicators of governance effectiveness, and employ qualitative approaches to capture the social and psychological dimensions of fraud risk more comprehensively.

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