Jurnal Akuntansi dan Auditing Indonesia
https://journal.uii.ac.id/JAAI

The moderating role of autonomy in the relationship between advisory services, risk management, and integrity system: Indonesia evidence

Ranto Partomuan Sihombing*, Monica Palupi Murniati
Department of Accounting, Soegijapranata Catholic University, Semarang, Indonesia
*Corresponding author email: ranto@unika.ac.id

ARTICLE INFO

Article history:
Received 2024-11-01
Accepted 2025-01-10
Published 2025-01-24

Keywords:
Advisory services, integrity system, Indonesia, inspectorate auditor, risk management.

DOI:
https://doi.org/10.20885/jaai.vol28.iss2.art4

ABSTRACT

Since 2014, Indonesia has implemented the Integrity System (IS) policy across ministry and government institution work units to address the ongoing challenge of corruption. Inspectorate auditors play a pivotal role in ensuring the successful implementation of the IS, providing both advisory services and risk management support within these units. This study aims to investigate the moderating role of autonomy in the relationship between advisory services, risk management, and the integrity system. A survey of 103 inspectorate auditors from various ministries and government institutions in Indonesia was conducted to explore these dynamics. Drawing on role theory, our findings reveal two key insights: (1) advisory services and risk management significantly enhance the implementation of the IS, and (2) autonomy strengthens the positive relationship between risk management and the IS. This research addresses the underexplored debate on the primary roles of internal auditors, offering novel insights within the Indonesian context.

Introduction

Corruption remains a chronic disease that can potentially undermine economic development worldwide. The potential for corrupt practices to occur in any organization worldwide, including Indonesia, was discovered in a recent study conducted by Putra and Sihombing (2023). Corruption has infiltrated Indonesia's higher education institutions, as the Supreme Audit Institution (BPK) reported in 2015 (Raga et al., 2020). Consequently, research on methods to address corruption remains a topic of interest and significance.

According to Langseth et al. (1997) and Peltier-Rivest (2018), corruption is a systematic issue. Therefore, organizations may implement an Integrity System (IS) to combat corrupt practices. Several studies have demonstrated that a well-developed IS can effectively mitigate the corrupt behavior of public officials within an organization (Peerthum et al., 2020; Sihombing et al., 2023).

Indonesia has implemented the IS policy at a national level since 2014. IS is a system designed to enhance the integrity of public officials within society (Six & Lawton, 2013). In Indonesia, this policy has undergone several revisions through regulations issued by the Ministry of Administrative and Bureaucratic Reform (MenPANRB) (Tiwisia et al., 2020). Work units that successfully implement IS practices are awarded the titles of "Free from Corruption Area" (WBK) and "Clean and Serving Bureaucratic Area" (WBBM) (MenPANRB, 2021).

Previous research has demonstrated that IS can significantly enhance individuals' awareness of integrity practices within organizations, particularly in the public sector (Hoekstra et al., 2023; McLeod et al., 2022; Zahari et al., 2021). To the best of our knowledge, most recent studies on IS have been concentrated in Malaysia (Alam et al., 2019; Johari et al., 2020; Said et al., 2016). However, these studies have not specifically addressed the role of internal auditors in fostering the development and implementation of IS.

Research examining the role of internal auditors in IS practices remains limited. However, Tadida's (2023) study highlights that the effectiveness of IS in addressing corruption requires the dominance of audit institutions. In the Indonesian context, inspectorate auditors, as internal government auditors, are pivotal in determining the success of work units in implementing IS. They simultaneously provide both advisory services and risk management within these units. Therefore, this study aims to fill this gap. The objective of this research is to examine the moderating role of autonomy in the relationship between advisory services, risk management, and integrity systems.

Ahmad and Taylor (2009) and Kiral and Karabacak (2020) said that internal auditors experience role ambiguity and conflict in themselves, which can affect their performance. In particular, Kiral and Karabacak (2020) stated that there is a conflict of roles between assurance and consulting. They assert that the objective of consulting

P ISSN 1410-2420 | E ISSN 2528-6528
Copyright © 2024 Authors. This is an open-access article distributed under the terms of the Creative Commons Attribution-ShareAlike 4.0 International License (http://creativecommons.org/licences/by-sa/4.0/)

services is to enhance internal control and risk management practices. Conversely, assurance services are designed to evaluate the effectiveness of internal controls and risk management. Inspectorate auditors in Indonesian ministries and institutions are also subject to the same circumstances. This fact undoubtedly generates research inquiries that necessitate resolution that is which role is more likely to result in improved performance when inspectorate auditors are granted autonomy to fulfill their responsibilities between advisory services and assurance (risk management).

The role theory lens investigates the relationship between autonomy, advisory services, risk management, and integrity systems. Kahn et al. (1964) explain that role clarity affects individual performance. Therefore, to understand their role well, IA requires adequate autonomy when making decisions related to their tasks (Alander, 2023; Liston-Heyes & Juillet, 2023). Furthermore, some scholars have found that autonomy can reduce role ambiguity and conflict and thus improve IA performance (Aghghaleh et al., 2014; Iyer et al., 2018; Jermias & Hoi Hu, 2020).

Our research makes a valuable contribution to advancing internal audit practice and literature. Our research offers more precise information regarding the roles that internal auditors should fulfill to optimize their capabilities. Internal auditors will execute risk management functions more effectively when granted autonomy. Consequently, policymakers in Indonesian ministries and institutions can make a practical contribution by granting inspectorate auditors more autonomy in risk management when constructing an integrity system within a work unit of ministries and institutions.

Literature Review

Integrity remains an ongoing topic of discussion within a government organization (Sajari et al., 2023). Although numerous individuals commend acts of integrity, there are still numerous interpretations of the concept of integrity (Huberts, 2018). Additionally, the primary focus of research on organizational integrity is on the tools and methods that public sector organizations employ to improve integrity and prevent integrity violations (Huberts & van Monforts, 2019).

Six and Lawton (2013) state that the Integrity System (IS) is a collection of government components, including instruments, policies, practices, and guards designed to enhance society's integrity. Moreover, Huberts and van Monfort (2019) stated that politicians and employees demonstrate integrity by fulfilling their responsibilities and obligations following the moral norms, values, and regulations pertinent to the current situation.

Organizations require a code of ethics and conduct to promote individual behaviour consistent with the relevant norms and values (Nicaise, 2022). He clarified that a code of conduct is a compliance-based approach tool used to enhance the integrity of management. It delineates the expected behaviour of individuals and the procedures in place, including the consequences for those who violate the rules and the systematic monitoring in place. In contrast, a code of ethics is a value-based approach that emphasizes general principles rather than specific instructions on behaviour and is contingent upon the individual's ability to apply moral reasoning (Nicaise, 2022).

In practice, the Integrity System (IS) functions as a policy-driven ethical framework or code of conduct. Recent studies on IS, as previously highlighted, have been predominantly conducted in Malaysia (Alam et al., 2019; Said et al., 2016). These studies involved surveys targeting department heads across various ministries. Said et al. (2016) concluded that good corporate governance practices significantly enhance the implementation of IS, while Alam et al. (2019) demonstrated that IS plays a pivotal role in improving accountability.

IS is a comprehensive policy that regulates all operations within various work units within ministries and institutions. Consequently, internal auditors must provide advisory services to work units (MenPANRB, 2021). Conversely, the Institute of Internal Auditors (IIA) (2017) elucidates that internal auditors render advisory services to offer guidance and are typically executed in response to the auditee's specific requests. Furthermore, the findings of the D'Alterio (2017) and Nicaise (2022) studies indicated that management must maintain communication with advisors regarding the implementation of ethical practices.

Internal auditing is a value-added activity that can be implemented through consulting and assurance (Barr-Pulliam et al., 2024; Christ et al., 2021; Eulerich & Eulerich, 2020). Consulting services play a strategic role in the organization by facilitating the development of a future review of the outcomes of interactions with management. Lenz and Hahn (2015) also expressed the same sentiment, asserting that advisory services are necessary to help management resolve intricate issues. The more effective the advisory services provided by the inspectorate auditors, the more effectively the principles of integrity are implemented in a ministry and institution-level work unit. The initial hypothesis is as follows:

H_1: Value-added advisory services can drive better system integrity practices.

In addition to providing advisory services, internal auditors are responsible for the active assurance of work units' Integrity System (IS) development process within a ministry or institution. IIA (2017) defines assurance as an objective evidence assessment activity conducted by internal auditors to express opinions or conclusions regarding

an entity, operation, function, process, system, or other issues. Risk management is a specific aspect of the internal audit function associated with assurance (Barr-Pulliam et al., 2024; Quick & Gauch, 2021).

Corruption and fraud are frequent hazards encountered by public sector managers. According to Hart (2016), corrupt practices pose a challenging risk to mitigate. Corruption is not a static entity, as bacteria are known to adapt and mutate in response to new opportunities (Jackson, 2013). Consequently, public sector organizations must identify risk management methods that utilize management tools and frameworks (Mahama et al., 2020). Dargay (2019) and Mahama et al. (2020) also conveyed the same message, stating that risk is closely associated with the control component, specifically integrity enforcement, which is one of the critical responsibilities of an internal auditor.

Internal auditors can assist management in identifying and assessing risks, as per Juillet et al. (2016). Furthermore, they can provide management with instructions on how to address risks. In addition, they can provide management with training on how to respond to risks and can help develop risk management work or specific risk strategies. Studies conducted in the past have demonstrated that risk management can enhance Integrity System (IS) (Abu Bakar et al., 2022; Johari et al., 2020; Sihombing et al., 2023). They concluded that the integrity system practices were more effective when the risk management practices were improved. In reality, effective risk management strategies can enhance the integrity of public officials; otherwise, they may result in the organization's downfall (Ayub et al., 2022). The second hypothesis is as follows:

H_2: Value-added risk management can drive better system integrity practices.

Most public administration experts acknowledge that organizational governance will be defined by a heightened complexity indicative of diverse stakeholder values and accountability requirements. As a result, this will influence the responsibilities of government internal auditors (Schillemans & Van Twist, 2016).

At the outset, they observe specific agents within the organization. Consequently, their responsibilities are established within specific legal parameters that delineate the responsibilities and obligations associated with determining the specific objectives of a specific type of audit (Schillemans & Van Twist, 2016). Conversely, they assert that internal auditors execute their responsibilities following the profession's standards, values, and comprehension.

In a political environment, internal auditors are expected to be sensitive to political issues or at least responsive to the rules of the political game as a profession. Inspectorate auditors also encounter the same conditions as internal government auditors assigned to ministries and institutions. Their tasks are becoming increasingly complex as they play a role in determining the success of the values and norms of integrity applicable within a work unit. Like two sides of a coin, they provide consultancy services while also offering assurance (MenPANRB, 2021).

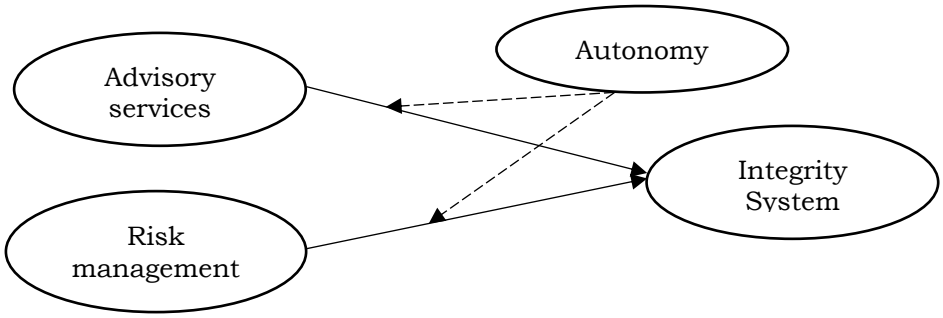
As previously mentioned, the tasks that internal auditors are required to complete are influenced by the complexity that organizations encounter. It is necessary to provide recommendations for improvement when the internal auditor's role as a gatekeeper is ineffective (Chambers & Odar, 2015). Although there is ongoing discussion regarding the degree of emphasis placed on advisory services versus risk management. However, the study by Juillet et al. (2016) conducted in Canada found that public sector organizations have driven a shift in the role of internal auditors, placing greater emphasis on their role as consultants rather than assurance providers. To ensure that work programs are prepared accurately, management requires the assistance of internal auditors. Conversely, IIA (2017) asserts that internal auditors can fulfill their responsibilities simultaneously by providing advisory services and performing assurance functions.

According to Juillet et al. (2016), internal auditors face challenges in maintaining their independence and objectivity when providing assurance on the outcomes of their consultations. This situation can result in internal auditors experiencing role conflict. A role is defined as a set of tasks that must be performed or accomplished. Volodina et al. (2023) emphasize that expectations serve as the foundation of a role. Conflict arises when two or more role expectations occur simultaneously, making it challenging to satisfy one without compromising another (Katz & Kahn, 1978). This role conflict can further manifest as role ambiguity and role inconsistency. Role ambiguity occurs when role expectations are unclear, whereas role conflict emerges when these expectations are contradictory (Khelil & Khlif, 2022).

In the context of our study, we suspect that inspectors' auditors also experience conflicts when simultaneously providing consultation and assurance services within a work unit. We believe that inspectors' auditors must clearly understand the roles they should assume to perform their duties effectively. Previous studies have found that a certain level of autonomy can reduce role conflict or role ambiguity (Fogarty & Kalbers, 2000; Iyer et al., 2018). This is supported by role theory, which states that when individuals face varied demands, they may experience stress, dissatisfaction, and reduced effectiveness in performing their duties (Kahn et al., 1964).

This has significant implications for the role of internal auditors. They must be granted authority to exercise professional judgment in carrying out their duties, enabling them to work more effectively. We hypothesize that autonomy moderates the relationship between advisory services, risk management, and the integrity system.

Identifying which interaction has the greatest influence on the integrity system is the key outcome expected from this study. The research model is depicted in Figure 1. Hypotheses three and four are as follows:
H_3: The relationship between advisory services and integrity systems is fortified, when autonomy is granted.
H_4: The relationship between risk management and integrity systems is fortified when autonomy is granted.



Source: created by authors

Figure 1. The theoretical framework of research

Research Method

Quantitative methodologies were applied during this research. We administered a survey to respondents who were involved in the implementation of the integrity system in a work unit within ministries and institutions. According to Groeneveld et al. (2015), the survey method is the most frequently employed quantitative method among scholars in the field of public administration. This is because survey is more suitable for research questions that pertain to individual behavior and attitudes (Groeneveld et al., 2015). Furthermore, they also mentioned that survey may additionally convey the collective perceptions of an organization.

Questionnaire was distributed to gather data. The questionnaire was divided into two sections. Respondents are required to respond to statement items in the initial section. The respondent's identity was intentionally positioned after the second section. This endeavors to foster a sense of autonomy among respondents in selecting their responses without regard for the identity information that has been disclosed.

The questionnaire was adapted from a previous study. We adhered to the translation process stages Potaka and Cochrane (2004) recommended prior to its distribution. We translated the questionnaire into Indonesian and then put it back into English. To guarantee that the questionnaire's meaning in Indonesian was identical to that in the original language, we also engaged a linguist in translating the questionnaire. Also, we engaged in discussions with numerous target respondents to guarantee that they comprehended each statement in the questionnaire.

Design of Variable Measurement

Advisory services and risk management are the two independent variables in this investigation. Respondents' perceptions of the value that high-quality advisory services can add to the organization are assessed through advisory services. A high response score indicates the respondents' perception that advisory services can contribute value. The questionnaire was adapted from research conducted by Liston-Heyes and Juillet (2019) and has been utilized in the study conducted by Sihombing et al. (2023).

Risk management measures the respondents' perception of the potential for high innovation to be generated during the execution of risk management. The higher the score is, the more likely the risk management implemented can generate innovation. The questionnaire was adapted from the research conducted by Liston-Heyes and Juillet (2019).

The integrity system is the dependent variable of this study. The purpose of this variable is to gauge the respondent's perception of the extent to which organizational integrity is a leading concern. As the score increases, the respondent is convinced that integrity is the most important factor in the organization's performance. We have adopted the questionnaire from the research conducted by Said et al. (2016), which has been adopted by several scholars, including Johari et al. (2020) and Sihombing et al. (2023).

Autonomy is the moderating variable in this investigation. The purpose of this variable is to gauge the respondent's perception of the extent to which the respondent relies on their professional expertise when completing tasks. As the score increases, the respondent becomes more hesitant to employ their professional judgment. The researcher developed the questionnaire based on the research conducted by Kalbers and Cenker (2008), which has since been adopted in the research conducted by Aghghaleh et al. (2014). Every instrument employs the Likert scale from 1 to 5, with one indicating unsatisfactory and five indicating very satisfactory.

Sampling and Data Collection

We utilized a purposive sampling technique, enabling us to define specific criteria for selecting the research sample (Neuman, 2014). Our criteria focused on inspectorate auditors who had provided consulting and assurance services to ministry and institution work units actively engaged in developing Integrity Zone (ZI). The final sample comprised 21 organizations, including 12 ministries and 9 non-ministerial government institutions.

We assumed that inspectorate auditors involved in developing Integrity Zone (ZI) would have the capacity to comprehend the elements outlined in the Integrity System (IS) instrument. According to Sihombing et al. (2023), the terminologies of ZI and IS possess a closely aligned definitional essence. Data were gathered by distributing a Google Form questionnaire through established networks within ministries and government agencies.

Results and Discussion

Respondent Profile

The study included 103 (51.5%) inspectorate auditors of ministries and institutions in Indonesia as respondents. Table 1 presents the demographic information of the respondents participating in this study. The majority of respondents are female and between the ages of 35 and 45 more than 50%. The majority of respondents (27.1%) were over the age of 45, while the remaining 21.4% were under the age of 35.

Tabel 1. Demographic of respondents

Variable	N = 103	Percentage (%)
Gender:		
Male	66	64.1
Female	37	35.9
Age group:		
< 35 years	22	21.4
35-45 years	53	51.5
> 45 years	28	27.1
Educational level:		
Bachelor	54	52.4
Master	46	44.7
Doctor	3	2.9
Institutional affiliation:		
Government institution	38	36.9
Ministry	65	63.1
Position level:		
First auditor	33	32
Young auditor	52	50.5
Intermediate auditor	18	17.5
Years of experience:		
< 5 years	18	17.6
5-10 years	20	19.4
10-20 years	48	46.6
> 20 years	17	16.4
Professional certification:		
Do not have Internal Auditor certification	26	25.2
Qualified Internal Auditor (QIA)	33	32
Certified Internal Auditor (CIA)	1	1
Certified Fraud Audit (CFA)	1	1
Others	42	40.8
Professional training:		
Never	5	4.9
Others	20	19.4
Fraud audit	8	7.8
Risk-based audit	70	67.9

Source: created by authors

The educational background also exhibits nearly the same phenomenon. 52.4% of respondents hold a bachelor's degree, while the remaining hold master's and doctoral degrees. Inspectorate auditors from the Ministry comprise 63.1% of the workforce, while the remaining comprise inspectorate auditors from government institutions.

Specifically, 50.5% of respondents are young auditors, 32% are first-time auditors, and 17.5% are intermediate auditors. As many as 46.6% of this study's respondents had worked for 10 to 20 years. 16.4% of respondents have worked for more than 20 years, 19.4% have worked for 5-10 years, and the remaining respondents have worked for less than five years.

Additionally, the respondents have acquired certifications in internal audit and other disciplines. 32% of respondents have obtained the Qualified Internal Auditor (QIA) certification, while the remaining 40.8% have obtained certifications in different fields. Certified Internal Auditor (CIA) and Certified Fraud Audit (CFA) certifications are held by only 1% of respondents, respectively. The remaining 25.2% of individuals have not yet obtained certification in the field of internal audit.

In terms of training attended, most respondents participated in risk-based audit training, with a total of 67.9%, while 7.8% participated in fraud audit training. Nevertheless, 4.9% of the individuals have never participated in training, while the remaining individuals have completed training in other disciplines.

Assessment of Measurement

Scholars in the field of audit, including internal auditors, have frequently employed PLS-SEM to conduct multivariate analyses (Moschidis et al., 2024; Samagaio & Felício, 2023). For this reason, we also employed PLS-SEM to evaluate this research model. Kock (2022) said that PLS-SEM can be used to analyze multivariate data. Before testing the hypothesis, we conducted a CFA Confirmatory Factor Analysis (CFA) to evaluate the construct's validity and reliability. Initially, we calculated the loading factor for each construction to determine whether there is a strong relationship between each construct. Table 1 presents factor loading values exceeding 0.5 (Hair et al., 2017), with the exception of the IS 2 construct item, which was excluded from hypothesis testing.

Subsequently, we assess the construct and validity reliability indices (convergence and discrimination). We employ Cronbach's alpha and composite reliability values to assess construct reliability. Table 2 indicates that the second performance indicator is above 0.7 (Hair et al., 2020). Furthermore, they assert that convergence validity aims to determine the extent to which the construct can explain the variance of the indicators (Hair et al., 2020). Additionally, Table 2 displays the variance of each item and the average variance (AVE) of all items, which is 0.50. This implies that the level of confidence used in this investigation has a comparable level of reliability.

Table 2. Results of the measurement model

Construct	Items	Loading	Cronbach's alpha	Composite reliability	AVE
Risk Management (RM)	RM 1	0.730	0.874	0.909	0.667
	RM 2	0.776			
	RM 3	0.847			
	RM 4	0.872			
	RM 5	0.850			
Advisory Services (AS)	AS 1	0.899	0.859	0.914	0.780
	AS 2	0.904			
	AS 3	0.845			
Autonomy (Au)	Au 1	0.824	0.802	0.884	0.717
	Au 2	0.869			
	Au 3	0.847			
Integrity System (IS)	IS 1	0.557	0.936	0.946	0.616
	IS 3	0.776			
	IS 4	0.831			
	IS 5	0.747			
	IS 6	0.822			
	IS 7	0.828			
	IS 8	0.758			
	IS 9	0.811			
	IS 10	0.813			
	IS 11	0.828			
	IS 12	0.820			

Source: created by authors

The objective of discriminant validity is to quantify the degree to which a construct empirically deviates from other constructs in a model (Hair et al., 2017). They also stated that the Fornel-Larcker criterion can be used to evaluate discriminant validity. The square root value of the AVE of a construct is greater than the correlation between one construct and another, as demonstrated in Table 3. Consequently, we have determined that the constructs employed have demonstrated acceptable reliability, discriminant, and convergent validity.

Table 3. Discriminant validity of constructs (Fornell-Larcker criterion)

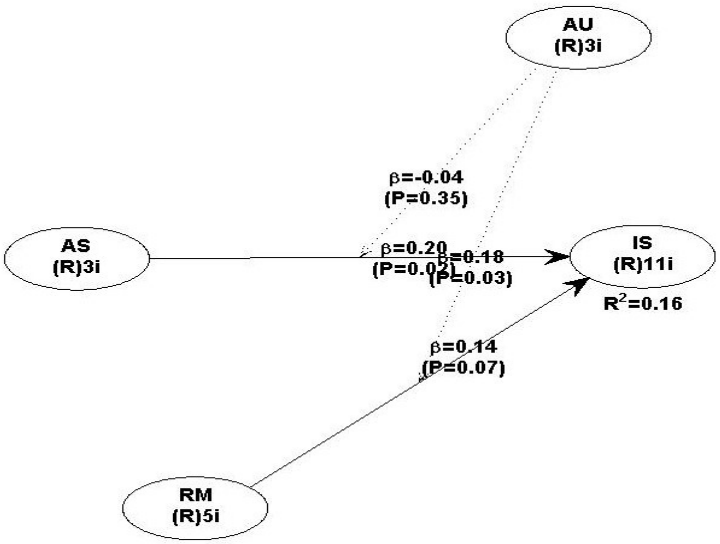
Constructs	1	2	3	4
Advisory Services (AS)	0.883			
Risk Management (RM)	0.528	0.817		
Integrity System (IS)	0.267	0.216	0.785	
Autonomy (Au)	0.334	0.300	0.401	0.847

Source: created by authors

Assessment of Structural Model

We tested the model using WarpPLS 8.0 developed by Kock (2010). One of the important criteria in assessing the model is the R^2 value. The value shows exogenous variables' influence on endogenous variables endogen (Breiman & Friedman, 1985).

Figure 2 shows an R^2 value of 16%, which means that the combination of interactions between Au, AS, and RM can explain IS by 0.16 and the rest by other variables. Chin (1998) says there are three ranges of coefficient of determination R^2, namely 0.19 weak category, 0.33 medium category, and 0.67 substantial category.



Source: created by authors

Figure 2. Structural model based on WarpPLS 8.0 test results

Testing of Hypotheses

Table 4 illustrates the results of our research hypothesis test. According to the hypothesis 1 ($\beta = 0.196$; $p < 0.05$), value-added advisory services can promote improved integrity system practices. Therefore, H1 is supported.

Table 4. Path coefficients and hypothesis testing

Hypothesis	Relationship	Standard beta	P-value	Decision
H1	Advisory services → integrity system	0.196	0.019**	Supported
H2	Risk management → integrity System	0.141	0.070*	Supported
H3	Autonomy moderates advisory services → integrity system	-0.039	0.346	Not Supported
H4	Autonomy moderates risk management → integrity system	0.183	0.027**	Supported

Note: ** significant level 0.05; * significant level 0.1
Source: created by authors

Hypothesis 2 posits that value-added risk management can improve integrity system practices (β = 0.141; *p < 0.1*). Therefore, H2 is supported. Hypothesis 3 and 4 state that the relationship between advisory services and integrity system becomes stronger when autonomy is granted (β = -0.039; *p > 0.1).* Therefore, H3 is not supported. Finally, hypothesis 4 asserts that the relationship between risk management and integrity system is more robust when autonomy is granted (β = 0.183; *p < 0.05*). Therefore, H4 is supported.

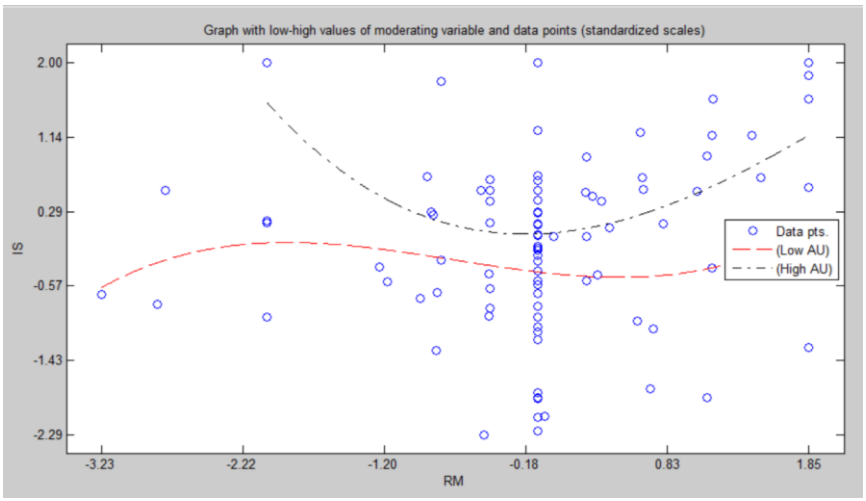
Discussion

This research is motivated by the role conflict experienced by inspectorate auditors when assisting work units in implementing the Integrity System (IS). They perform two roles simultaneously: advisory services and risk management. In the Indonesian context, this study has yielded several interesting findings. First, advisory services positively influence the integrity system. This indicates that higher levels of value-added advisory services can enhance integrity system practices. This finding aligns with the study conducted by Juillet et al. (2016), which found that the primary role of internal auditors is consultation (advisory services) rather than assurance.

Secondly, risk management positively influences the integrity system, indicating that higher levels of value-added risk management can significantly enhance integrity system practices. This finding is supported by prior research. Despite employing different theoretical perspectives, the studies by Johari et al. (2020) and Sihombing et al. (2023) conclude that risk management can strengthen the implementation of an organization's integrity system through heightened fraud awareness.

Third, this study's primary finding is that autonomy moderates the relationship between risk management and integrity systems. This is evident in comparing the β coefficient value before and after autonomy moderation. The coefficient value β increases from 0.141 to 0.183 when autonomy moderates the relationship between risk management. Similarly, the significance value has risen from a 10% level of significance to a 5% level of significance.

Figure 3 illustrates the moderating influence of autonomy on the relationship between risk management and integrity system. The integrity system is positively influenced by risk management in samples with a low level of autonomy, as illustrated in the figure. In contrast, high autonomy indicates that the relationship between risk management and integrity systems is not linear.



Source: created by authors

Figure 3. The moderating effect of autonomy on the relationship between risk management and integrity system

This final finding contributes to resolving the debate highlighted in previous studies (Alander, 2023; Kiral & Karabacak, 2020; Liston-Heyes & Juillet, 2023). Similar conclusions were drawn in two other studies, which identified that internal auditors experiencing stress from role conflict (Khelil & Khlif, 2022; Volodina et al., 2023) benefit significantly from being assigned clear and well-defined roles. Notably, this study emphasizes that the key role auditors should prioritize to enhance the integrity system is risk management (assurance).

Conclusion

In conclusion, this study reveals that autonomy plays a moderating role in the relationship between risk management and the integrity system. Inspectorate auditors should be granted greater autonomy in risk management than in advisory services when contributing to the development of the Integrity System (IS) within

work units of ministries and institutions in Indonesia. This approach aims to enhance the likelihood of these units achieving the status of "Free Area from Corruption" (WBK) and "Clean and Serving Bureaucracy Area" (WBBM). Ultimately, this can help reduce corruption practices in Indonesia, thereby improving the country's Corruption Perception Index (CPI) score.

The research findings offer valuable theoretical and practical implications. Theoretically, the study reinforces role theory by highlighting how the complexity of tasks assigned to internal auditors often leads to role conflict. With diverse stakeholders holding differing expectations of internal auditors, inspectorate auditors—serving as government internal auditors who provide both consulting and assurance services—are particularly prone to stress. This study underscores that such stress can be effectively mitigated when internal auditors are assigned a clear and well-defined role.

From a practical standpoint, our study provides valuable insights for policymakers in Indonesian ministries and institutions. Assigning clear and well-defined roles to inspectorate auditors is essential to enhance their effectiveness in supporting work units as they implement the Integrity System (IS).

This study has several limitations. It focuses solely on internal auditors within public sector organizations, though similar issues may also arise in private sector companies, offering an opportunity for future research. Furthermore, exploratory studies are needed to further validate the findings of this research.

Acknowledgment

We express our deep gratitude to Endang Suryani Sihombing, S.E., Ak., M.Ak., QIA; Junior Auditor at the Inspectorate of the Meteorology, Climatology, and Geophysics Institution. Before her passing, she played a crucial role in assisting the scholars with data collection for this study.

References

Abu Bakar, H., Omar, S. N. Z., Cob, C. M. S. C., Abidin, N. S. Z., & Roslan, N. S. F. (2022). Good Governance Practices and Employee Integrity: Evidence from Local Government. *International Journal of Academic Research in Progressive Education and Development*, *11*(2), Pages 967-978. https://doi.org/10.6007/IJARPED/v11-i2/13857

Aghghaleh, S. F., Mohamed, Z. M., & Ahmad, A. (2014). The effects of personal and organizational factors on role ambiguity amongst internal auditors. *International Journal of Auditing*, *18*(2), 105–114. https://doi.org/10.1111/ijau.12015

Ahmad, Z., & Taylor, D. (2009). Commitment to independence by internal auditors: The effects of role ambiguity and role conflict. *Managerial Auditing Journal*, *24*(9), 899–925. https://doi.org/10.1108/02686900910994827

Alam, M. M., Said, J., & Abd Aziz, M. A. (2019). Role of integrity system, internal control system and leadership practices on the accountability practices in the public sectors of Malaysia. *Social Responsibility Journal*, *15*(7), 955–976. https://doi.org/10.1108/SRJ-03-2017-0051

Alander, G. E. (2023). Internal auditor independence as a situated practice: Four archetypes. *Accounting, Auditing & Accountability Journal*, *36*(9), 108–134. https://doi.org/10.1108/AAAJ-08-2019-4137

Ayub, Z. A., Wahab, H. A., Yusoff, Z. M., Zan, Z., & Shariffuddin, M. D. K. (2022). *Enforcement Agency Integrity Commission: Whither Is It Bound?* https://www.researchgate.net/profile/Zainal-Ayub/publication/363454432_Enforcement_Agency_Integrity_Commission_Whither_Is_It_Bound/links/643511a320f25554da23bfd3/Enforcement-Agency-Integrity-Commission-Whither-Is-It-Bound.pdf

Barr-Pulliam, D., Eulerich, M., & Ratzinger-Sakel, N. (2024). The effect of the internal audit function's perceived assurance versus advisory purpose on the external auditor's reliance decision. *Managerial Auditing Journal*, *39*(2), 138–165. https://doi.org/10.1108/MAJ-08-2023-4021

Breiman, L., & Friedman, J. H. (1985). Estimating Optimal Transformations for Multiple Regression and Correlation. *Journal of the American Statistical Association*, *80*(391), 580–598. https://doi.org/10.1080/01621459.1985.10478157

Chambers, A. D., & Odar, M. (2015). A new vision for internal audit. *Managerial Auditing Journal*, *30*(1), 34–55. https://doi.org/10.1108/MAJ-08-2014-1073

Chin, W. W. (1998). The Partial Least Squares Approach to Structural Equation Modeling. In *Modern Methods for Business Research* (Vol. 2, pp. 295–336). Lawrence Erlbaum Associates.

Christ, M. H., Eulerich, M., Krane, R., & Wood, D. A. (2021). New Frontiers for Internal Audit Research*. *Accounting Perspectives*, *20*(4), 449–475. https://doi.org/10.1111/1911-3838.12272

D'Alterio, E. (2017). Integrity of the public sector and controls: A new challenge for global administrative law? *International Journal of Constitutional Law*, *15*(4), 1013–1038. https://doi.org/10.1093/icon/mox077

Dargay, E. (2019). The Implementation and Experience of Integrity Management in Public Administration. *Academic and Applied Research in Military and Public Management Science*, *18*(2), 17–30. https://doi.org/10.32565/aarms.2019.2.2

Eulerich, A., & Eulerich, M. (2020). What is the value of internal auditing? – A literature review on qualitative and quantitative perspectives. *Maandblad Voor Accountancy En Bedrijfseconomie*, *94*(3/4), 83–92. https://doi.org/10.5117/mab.94.50375

Fogarty, T. J., & Kalbers, L. P. (2000). An empirical evaluation of the interpersonal and organizational correlates of professionalism in internal auditing. *Accounting and Business Research*, *30*(2), 125–136. https://doi.org/10.1080/00014788.2000.9728930

Groeneveld, S., Tummers, L., Bronkhorst, B., Ashikali, T., & Van Thiel, S. (2015). Quantitative Methods in Public Administration: Their Use and Development Through Time. *International Public Management Journal*, *18*(1), 61–86. https://doi.org/10.1080/10967494.2014.972484

Hair, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, *109*, 101–110. https://doi.org/10.1016/j.jbusres.2019.11.069

Hair, J. F., Hult, T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd, Ed.). Sage Publications.

Hart, E. (2016). Why is corruption risk management so hard?Assessing current practices in development aid. *U4 BRIEF*, *May*. https://www.u4.no/publications/why-is-corruption-risk-management-so-hard-assessing-current-practices-in-development-aid

Hoekstra, A., Huberts, L., & Montfort, A. V. (2023). Content and Design of Integrity Systems: Evaluating Integrity Systems in Local Government Content and Design of Integrity Systems: Evaluating Integrity. *Public Integrity*, *25*(2), 137–149. https://doi.org/10.1080/10999922.2021.2014204

Huberts, L., & van Monforts, A. (2019). Integrity of governance: Toward a systems approach. In *Global Corruption and Ethics Management: Translating theory into action* (pp. 187–193). Rowman & Littlefield. https://research.vu.nl/en/publications/integrity-of-governance-toward-a-system-approach

Huberts, L. W. J. C. (2018). Integrity: What it is and Why it is Important. *Public Integrity*, *9922*. https://doi.org/10.1080/10999922.2018.1477404

IIA. (2017). *Standar Internasional Praktik Profesional Audit Internal*. Standar Internasional Praktik Profesional Audit Internal. https://www.theiia.org/globalassets/site/standards/mandatory-guidance/ippf/2017/ippf-standards-2017-indonesian.pdf

Iyer, V. M., Jones, A., & Raghunandan, K. (2018). Factors related to internal auditors' organizational- professional conflict. *Accounting Horizons*, *32*(4), 133–146. https://doi.org/10.2308/acch-52139

Jackson, P. M. (2013). Debate: Fraud risk management in the public sector. *Public Money and Management*, *33*(1), 6–8. https://doi.org/10.1080/09540962.2013.744866

Jermias, J., & Hoi Hu, B. K. (2020). Overconfidence and Resistance to Abandoning Unprofitable Capital Budgeting Projects: The Effects of Autonomy, Internal Audit, and Accountability. *Accounting Perspectives*, *19*(2), 49–71. https://doi.org/10.1111/1911-3838.12222

Johari, R. J., Alam, M. M., & Said, J. (2020). Empirical assessment on factors contributing to integrity practices of Malaysian public sector officers. *Business Process Management Journal*. https://doi.org/10.1108/BPMJ-06-2020-0297

Juillet, L., Liston-Heyes, C., Mitchell, J. R., & Zusmann, D. (2016). *The Internal Auditor As An Agent of Organizational Learning: Enhancing The Value of Internal Auditing in the Public Sector* (pp. 4–6). University of Ottawa. https://www.giacc-ccaisp.ca/research-and-thought-leadership/

Kahn, R. L., Wolfe, D. M., Quinn, R. P., & Snoeck, J. D. (1964). *Organizational Stress: Studies in Role Conflict and Ambiguity*. John Wiley & Sons, Inc.

Katz, D., & Kahn, Robert. L. (1978). *The Social Psychology of Organizations*. John Wiley and Sons.NY

Khelil, I., & Khlif, H. (2022). Internal auditors' perceptions of their role as assurance providers: A qualitative study in the Tunisian public sector. *Meditari Accountancy Research*, *30*(1), 121–141. https://doi.org/10.1108/MEDAR-04-2020-0861

Kalbers, L. P., & Cenker, W. J. (2008). The Impact of Excercised Responsibility, Experience, Autonomy, and Role Ambiguity on Job Performance in Public Accounting. *Journal of Managerial Series*, *20*(3), 327–347.

Kiral, H., & Karabacak, H. (2020). Resolution of the Internal Audit-Based Role Conflicts in Risk Management: Evidence from Signaling Game Analysis. *Group Decision and Negotiation*, *29*(5), 823–841. https://doi.org/10.1007/s10726-020-09679-x

Kock, N. (2010). Using WarpPLS in E-collaboration Studies: An Overview of Five Main Analysis Steps. *International Journal of E-Collaboration*, *6*(4), 1–11. https://doi.org/10.4018/jec.2010100101

Kock, N. (2022). Using causality assessment indices in PLS-SEM. *Data Analysis Perspectives Journal*, *3*(June), 1–6.

Langseth, P., Stapenhurst, R., & Pope, J. (1997). The Role of a National Integrity System. *Commonwealth Law Bulletin*, *23*(1–2), 499–528.

Lenz, R., & Hahn, U. (2015). A synthesis of empirical internal audit effectiveness literature pointing to new research opportunities. *Managerial Auditing Journal*, *30*(1), 5–33. https://doi.org/10.1108/MAJ-08-2014-1072

Liston-Heyes, C., & Juillet, L. (2019). Employee isolation and support for change in the public sector: A study of the internal audit profession. *Public Management Review*, *21*(3), 423–445. https://doi.org/10.1080/14719037.2018.1500628

Liston-Heyes, C., & Juillet, L. (2023). Does increasing auditors' independence lead to more forceful public auditing? A study of a Canadian internal audit reform. *Public Administration*, 1–24. https://doi.org/10.1111/padm.12964

Mahama, H., Elbashir, M., Sutton, S., & Arnold, V. (2020). New development: Enabling enterprise risk management maturity in public sector organizations. *Public Money and Management*, *0*(0), 1–5. https://doi.org/10.1080/09540962.2020.1769314

McLeod, S., Papavassiliou, L., & Clydesdale, R. (2022). Information Use in Integrity Systems: Testing the potential for Automated Content Analysis of Local Government Documents. *Public Integrity*, *24*(2), 126–141. https://doi.org/10.1080/10999922.2021.1878741

MenPANRB. (2021). Peraturan Menteri Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia No. 90 tahun 2021 Tentang Pembangunan dan Evaluasi Zona Integritas Menuju Wilayah Bebas dari Korupsi dan Wilayah Birokrasi Bersih dan Melayani di Instansi Pemerintah. https://jdih.menpan.go.id/dokumen-hukum/PERMEN/jenis/1488?PERATURAN%20MENTERI

Moschidis, S., Drogalas, G., Chatzipetrou, E., & Lois, P. (2024). An investigation of risk-based auditing (RBA) relationships from the stakeholders' perspective using PLS-SEM. *EuroMed Journal of Business*. https://doi.org/10.1108/EMJB-12-2022-0211

Neuman, W. L. (2014). Social Research Methods: Qualitative and Quantitative Approaches. In *Teaching Sociology* (Vol. 30, Issue 3). Pearson Education Limited. www.pearsoned.co.uk

Nicaise, G. (2022). *Strengthening the ethics framework within aid organizations. Good practices from the compliance approach and the values-based approach* (U4 Issue 8). CHR. Michelsen Institute. https://open.cmi.no/cmi-xmlui/handle/11250/3038927

Tadida, E. Z. N. (2023). Public auditing: What impact does the quality of the institutional framework have on the level of corruption? *International Review of Administrative Sciences*, *89*(4), 1131–1146. https://doi.org/10.1177/00208523231155385

Peerthum, S., Gunputh, R. P., & Luckho, T. (2020). Assessing the effectiveness of the fight against public-sector corruption in Mauritius: Perception v reality. *International Journal of Law, Crime and Justice*, *63*, 100419. https://doi.org/10.1016/j.ijlcj.2020.100419

Peltier-Rivest, D. (2018). A model for preventing corruption. *Journal of Financial Crime*, *25*(2), 545–561. https://doi.org/10.1108/JFC-11-2014-0048

Potaka, L., & Cochrane, S. (2004). Developing Bilingual Questionnaires: Experiences from New Zealand in the Development of the 2001 Mäori Language Survey. *Journal of Official Statistics*, *20*(2), 289–300.

Putra, I. P. M. J. S., & Sihombing, R. P. (2023). The potential of corruption based on Hofstede cultural dimensions and institutional quality: An international evidence. *Journal of Financial Crime*. https://doi.org/10.1108/JFC-02-2023-0039

Quick, R., & Gauch, K. (2021). Is assurance on risk management systems relevant for bankers' decisions? *Advances in Accounting*, *55*, 100564. https://doi.org/10.1016/j.adiac.2021.100564

Raga, R. A., Suharman, H., & Sari, P. Y. (2020). The Role Internal Supervision Unit Auditor and Organizational Commitments Toward Good University Governance in Public Service Agency State Universities. *Jurnal Organisasi Dan Manajemen*, *16*(1), 48–59. https://doi.org/10.33830/jom.v16i1.708.2020

Said, J., Alam, M. M., & Khalid, M. A. (2016). Relationship between good governance and integrity system: Empirical study on the public sector of Malaysia. *Humanomics*, *32*(2), 151–171. https://doi.org/10.1108/H-02-2016-0008

Sajari, A., Haron, H., Ganesan, Y., & Khalid, A. A. (2023). Factors influencing the level of ethics and integrity in Malaysian public sector. *Journal of Islamic Accounting and Business Research*, *14*(1), 141–158. https://doi.org/10.1108/JIABR-09-2021-0256

Samagaio, A., & Felício, T. (2023). The determinants of internal audit quality. *European Journal of Management and Business Economics*, *32*(4), 417–435. https://doi.org/10.1108/EJMBE-06-2022-0193

Schillemans, T., & Van Twist, M. (2016). Coping with Complexity: Internal Audit and Complex Governance. *Public Performance & Management Review*, *40*(2), 257–280. https://doi.org/10.1080/15309576.2016.1197133

Sihombing, R. P., Agustia, D., & Soewarno, N. (2023). The mediating effect of data analytics on the relationship between organizational psychological safety and advisory services. *Managerial Auditing Journal*. https://doi.org/10.1108/MAJ-04-2022-3521

Sihombing, R. P., Soewarno, N., & Agustia, D. (2023). The mediating effect of fraud awareness on the relationship between risk management and integrity system. *Journal of Financial Crime*, *30*(3), 618–634. https://doi.org/10.1108/JFC-02-2022-0058

Six, F., & Lawton, A. (2013). Towards a theory of integrity systems: A configurational approach. *International Review of Administrative Sciences*, *79*(4), 639–658. https://doi.org/10.1177/0020852313501124

Tiwisia, V., Setiawan, A. W., & Triono, A. (2020). Bureaucratic Reform of Indonesia Attorney: Building Integrity of Law Enforcement and Improving Public Trust. *International Journal of Humanities and Social Science*, *10*(6), 125–131. https://doi.org/10.30845/ijhss.v10n6p15

Volodina, T., Grossi, G., & Vakulenko, V. (2023). The changing roles of internal auditors in the Ukrainian central government. *Journal of Accounting & Organizational Change*, *19*(6), 1–23. https://doi.org/10.1108/JAOC-04-2021-0057

Zahari, A. I., Said, J., & Arshad, R. (2021). Examining the Components of Integrity. *Integrative Psychological and Behavioral Science*. https://doi.org/10.1007/s12124-021-09626-8