

THE DETERMINANT OF THE EFFECTIVENESS OF RISK-BASED INTERNAL AUDIT

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Abstract

How to cite this paper: Ardianingsih, A., Setiawan, D., Payamta, P., Widarjo, W., & Langelo, J.S. (2024). The determinant of the effectiveness of risk-based internal audit. *Risk Governance and Control: Financial Markets & Institutions*, 14(3), 39–46. <https://doi.org/10.22495/rgcv14i3p4>

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ISSN Online: 2077-4303

ISSN Print: 2077-429X

Received: 27.02.2024

Accepted: 29.07.2024

JEL Classification: M42, H83, G22

DOI: 10.22495/rgcv14i3p4

The organization carries out internal audits to monitor the organization's operations, control risks and impacts, and help the organization achieve its goals (Institute of Internal Auditors [IIA], 2019). The motivation for this research is to increase accountability and transparency in the management of workforce social security programs through effective internal audits. This research explores the interaction of independence, competence, management support, and risk management on the effectiveness of risk-based internal audit (RBIA). The research was conducted in the context of the Social Security Administrator for Employment (*BPJS Ketenagakerjaan*) in Central Java, Indonesia. The questionnaire is a primary data collection instrument and uses a purposive sampling technique. The analysis technique uses data quality tests, classical assumption tests, and multiple linear regression. Data analysis was carried out using SPSS version 22 software. The results of the data analysis found that RBIA was influenced by independence. Independence is the existence of communication and access to information in all divisions or departments of an organization, which is able to improve the internal audit function and make it more effective (Alwi & Yuyetta, 2020). The second result is that competence, risk management, and management support do not have a significant positive influence on the effectiveness of RBIA.

Keywords: RBIA Effectiveness, Risk, Organization

Authors' individual contribution: Conceptualization — A.A. and P.P.; Methodology — D.S. and W.W.; Validation — D.S. and W.W.; Formal Analysis — A.A. and J.S.L.; Investigation — A.A. and J.S.L.; Data Curation — P.P.; Writing — Original Draft — A.A. and J.S.L.; Writing — Review & Editing — A.A., D.S., P.P., and W.W.; Supervision — D.S.; Project Administration — A.A.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

Acknowledgements: The Authors would like to acknowledge the Directorate General for Higher Education, Ministry of Education, Culture, Research and Technology, Republic of Indonesia, for funding this research under Grant No. 086/E5/PG.02.00.PL/2024.

1. INTRODUCTION

The developing business environment gives rise to various risks such as reputation risk, strategic risk, operational risk and fraud risk. The corporations have business process risks that must be faced in order to maintain business continuity. The issue of supervision is an important point, especially for the corporations that collect funds from the public, such as banks, insurance, pension funds and social security, because this can create a risk of fraud in the use of funds. Business failure is often caused by ineffective internal controls and supervision. Internal audit helps corporations achieve their goals and objectives through risk management, control and implementation of good governance.

The survey by the Central Bureau of Statistics (2023) Republic of Indonesia found that the number of working people in Indonesia was 135,30 million in August 2022 and 139,87 million people in August 2023. Thus, the Indonesian government considers it necessary to have a social security program. The social security programs include health insurance, pension insurance, work accident insurance, and life insurance. The labour social security program provides minimal protection for workers and families. Supervision is needed in the implementation of social security programs that provide social protection for the community. The Social Security Administrator for Employment (*BPJS Ketenagakerjaan*) is an organization mandated by the Indonesian government to administer social security for workers (Law No. 33 of 1992, Government Regulation No. 36 of 1995, and Law No. 40 of 2004). The BPJS Ketenagakerjaan offers several social security programs such as Life Insurance, Old Age Insurance, Work Accident Insurance, and Pension Insurance. In 2022, BPJS Ketenagakerjaan will have managed social security funds for workers amounting to IDR 627.69 trillion, with the largest proportion being at the Old Age Insurance program at 65.36% or IDR 410 trillion. The large amount of managed funds above will provide an opportunity for fraud risks to arise if it is not accompanied by a good monitoring mechanism.

According to the 2019 Association of Certified Fraud Examiners (ACFE) survey, the organization's whistle-blower system and anti-fraud policy are the most influential anti-fraud controls with a percentage of 22.6% and 13.8%, then followed by the internal audit department with a percentage of 9.6%. The existence of an internal audit as a systematic control tool can detect fraud early, overcome the occurrence of fraud and minimize the impact of fraud. The implementation of the internal audit function to be effective requires an understanding of audit processes and techniques that are relevant to efforts to minimize the corporation's risks. The effectiveness of internal audits will also increase goal achievement and provide added value for the corporation (Eulerich & Lenz, 2020).

The BPJS Ketenagakerjaan' (2019) Directors Regulation No. PERDIR/33/102017 regulates the duties and authorities of the Internal Supervisory Unit which is under the board of directors. The Internal Audit Unit carries out internal audits using a risk approach, especially business process risks in BPJS Ketenagakerjaan. Risk-based internal audit (RBIA) according to the International Professional Practice Framework (IPPF) in Standard No. 2120 (Institute of

Internal Auditors [IIA], 2017), states that the internal audit function must be able to evaluate the effectiveness and contribute to improving the risk management process within the corporation. An RBIA approach forces the auditors to spend the majority of their time understanding business processes the risks inherent in the business and how to manage these risks.

The supervision carried out by internal audit requires several things such as management support, the quality of the personal internal auditor and risk management to be effective. Research by Mihret and Yismaw (2007) found that internal audit effectiveness is influenced by internal audit quality and management support, while the attributes of organizational settings and the audited party do not have a strong impact on audit effectiveness. Auditors' personal attributes such as independence, competence, ethics, and expertise are several things that need to be considered so that internal audits run effectively (Al-Twajjry et al., 2003; Yee et al., 2008; Mihret et al., 2010; Cohen & Sayag, 2010; Lenz et al., 2017; Alzeban & Gwilliam, 2014; Jamaluddin & Syarifuddin, 2014; Baharuddin et al., 2014; Lois et al., 2020; Betri & Murwaningsih, 2021) but research by Rahadhitya and Darsono (2015), Tackie et al. (2016), and Khalid et al. (2017) showed that independence had positive and insignificant effects on the effectiveness of internal audit.

Other research finds the influence of audit committee independence on corporation performance (Chan & Li, 2008; Dakhllalh et al., 2020; Al-Matari, 2022). Furthermore, Turetken et al. (2020) divided two aspects, namely the demand side and the supply side, which can influence the effectiveness of the internal audit. The requested aspects include organizational support, interaction with external auditors, coordination with audit committees, and environmental controls. The offering aspects include competency, size of the internal audit unit, independence, implementation of RBIA planning, quality of audit results, and leadership within the internal audit unit. Risk management by the risk management division provides a map of areas with significant risk that is useful for internal auditors in implementing RBIA (Beasley et al., 2006). In this case, the effectiveness of internal audit has a close relationship with risk management (Drogalas & Siopi, 2017).

The internal audit assesses management's accountability to various interested parties within the corporation. Internal audit is designed systematically to audit activities, programs, assess and report whether resources and funds have been used efficiently, and whether the objectives of planned programs and activities can be achieved, without violating the provisions of corporation rules and policies. The effectiveness of supervision carried out by internal audits is important to ensure transparency and accountability in the management of employment social security funds at BPJS Ketenagakerjaan. This research provides an explanation of the effectiveness of supervision at BPJS Ketenagakerjaan. The contribution of this research is first, providing additional knowledge regarding the determining factors that can influence the effectiveness of RBIA. Second, provide recommendations for policy-making to BPJS Ketenagakerjaan management for implementing the employment social security program.

This paper is structured as follows. Section 2 reviews the relevant literature and develops the hypotheses. Section 3 analyses the methodology that has been used to conduct empirical research. Section 4 shows the results and Section 5 discusses them. Section 6 describes the conclusion and suggestions for further research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Stakeholder theory

Stakeholder theory talks about the relationship between the company and its stakeholders who interact with each other, influencing each other to jointly achieve the company's goals (Freeman, 1984). Internal auditors will liaise with stakeholders regarding audit results in the form of recommendations. Stakeholders want complete information about the results of internal audits, suggestions and recommendations provided and the results of follow-up monitoring of audit findings as indicators of internal audit effectiveness. An RBIA at BPJS Ketenagakerjaan is an audit activity process that takes into account significant business process risks to provide assurance and consultation to management that risks have been managed to a level acceptable to management and other stakeholders.

2.2. The internal auditor competency and effectiveness of risk-based internal audit

Internal auditors in carrying out supervision require competence and skills in the field of auditing. Internal auditors with adequate audit experience will sharpen their sensitivity to various forms of practices that have the potential for irregularities, errors, and fraud. Standard No. 1210.A2 (IIA, 2017) states that a series of activities such as risk evaluation, controlling and managing risk must be carried out by internal auditors even though they are not required to have expertise in further investigating fraud risks (IIA, 2017). Auditors who have experience will generally carry out their duties and responsibilities well. Because experienced auditors tend to be more able to think comprehensively in providing suggestions and recommendations to management and improving the optimization of the internal control system (Rupšys & Stačiokas, 2005). Audit experience for internal auditors also makes their judgment better in carrying out internal audits and mitigating the emergence of various significant risks that affect corporate operations.

Based on the BPJS Ketenagakerjaan' (2019) Directors Regulation No. PERDIR/33/102017 regulates the internal supervision system. Internal auditors will conduct audits at all levels of management. Competency in the auditor's professional code of ethics is defined as adequate ability, expertise, knowledge, and skills that must be possessed by internal auditors. This competency requirement is to ensure that internal auditors are able to carry out the audit process, evaluate audit evidence and prepare internal audit reports. The competency of internal auditors is also represented by their experience in carrying out internal audits. The competency of internal auditors must be continuously improved so

that they can perform their functions and conduct audits with high quality (Mihret et al., 2010).

Therefore, the first hypothesis is as follows:

H1: Internal auditor competency has a positive effect on the effectiveness of risk-based internal audit.

2.3. The independence and effectiveness of risk-based internal audit

Independence is an attitude that internal auditors must have. A form of independence is access to information in all divisions or departments in the company and communicating the results of audits that have been carried out. Internal audit independence is reflected in all stages of the audit, from planning to reporting. Threats to independence must be managed from the individual internal auditor, engagement, functional and organizational levels. Internal auditors sometimes experience a dilemma when they have to report audit findings when the internal auditor's position is also an employee of the company they audit (Mihret et al., 2010). The internal audit charter is one way to maintain the independence of internal auditors. If the internal auditor has independence, the audit process will be objective and effective (Alzeban & Gwilliam, 2014; Jamaluddin & Syarifuddin, 2014; Lois et al., 2020; Betri & Murwaningsih, 2021).

The second hypothesis is as follows:

H2: Independence has a positive effect on the effectiveness of risk-based internal audit.

2.4. The risk management and effectiveness of risk-based internal audit

Internal auditors have an important benchmarking role for risk assessment and internal control practices. Risks in business processes relate to actual results that do not match expected results. Handling risks by avoiding them can be very effective if the benefits obtained are not commensurate with the risks that will be accepted. But this strategy cannot be used as the main method because we may miss out on big profits from the risks that we face. Working closely with the board of directors, audit committee and risk committee, internal audit seems to be the only function in the organization that has a deep understanding of risk.

Regulation of the Minister of Finance of the Republic of Indonesia No. 142/PMK.010/2009 regulates risk management and control carried out by the risk management division. Management of uncertainty or risk is needed by corporations. Implementing good and correct risk management can support the realization of governance through a more realistic way of business planning by considering possible risks, provision and allocation of capital based on risk levels, as well as implementing effective internal controls. Research by Abdullatif and Kawuq (2015) states that internal auditors must pay attention to risk mapping from risk management and auditors can use the control risk self-assessment technique so that internal audits are effective (Arena & Azzone, 2009).

The third hypothesis is as follows:

H3: Risk management has a positive effect on the effectiveness of risk-based internal audit.

2.5. The management support and effectiveness of risk-based internal audit

The implementation of internal audits will not run well if management support is lacking. Allocation of human resources, adequate audit budget, coordination and cooperation between management, division or department being audited and internal auditors during audit activities will create RBIA effectiveness. Management's commitment to implementing recommendations from internal auditors is also a form of management support for internal audits. Research by Shohihah et al. (2018), Rudhani et al. (2017), Arles et al. (2017), Endaya and Hanefah (2013), and Cohen and Sayag (2010) strengthens the argument that management support is a determinant of internal audit effectiveness, however, Rahadhitya and Darsono (2015) found that management support does not have a significant influence on the effectiveness of the internal audit.

The fourth hypothesis is as follows:

H4: Management support has a positive effect on the effectiveness of risk-based internal audit.

3. RESEARCH METHODOLOGY

This research is quantitative with a survey method of distributing questionnaires using Google Forms to respondents with a population of 182 respondents. Surveys using questionnaires are carried out by giving questions or statements to respondents in writing (Sugiyono, 2014). The questionnaire measurements used a 1-5 Likert scale, with details of strongly disagree, disagree, neutral, agree and strongly agree. The research object is BPJS Ketenagakerjaan in Central Java, Indonesia. The research data collection technique uses a purposive sampling method with the following criteria:

1) the workers of the BPJS Ketenagakerjaan are involved in implementing RBIA;

2) internal supervisory units, regional/branch deputies, assistant regional deputies, regional heads, branch heads, field heads, and risk management administrators who are involved in the RBIA process;

3) minimum associate degree (D3) education;

4) minimum length of work is 3 years.

Indicators and measurements for each variable can be seen in Table 1.

Table 1. Operational variables

Variable	Variable indicator	Measurement
Competency	Education, experience, knowledge, internal auditor certification, skills, and abilities, continuing professional education.	Likert scale
Independence	Clear duties and responsibilities, access to communication, transparency of audit results.	Likert scale
Risk management	Risk maturity and risk assessment.	Likert scale
Management support	Internal audit charter, adequate audit budget, opportunities for further study, facilitation of internal audit certification, remuneration policies, regulations, or rules.	Likert scale
RBIA effectiveness	Audit quality, evaluation of audit results, recommendations, and additional contributions from internal audit.	Likert scale

Source: Authors' elaboration based on Cohen and Sayag (2010).

Test data quality using validity tests and reliability tests. The classical assumption test uses the normality test, multicollinearity test and heteroscedasticity test. The analysis technique is carried out using multiple linear regression. Research data was processed using SPSS version 22 software.

4. RESEARCH RESULTS

4.1. Characteristics of respondents

This research used 50 respondents with characteristics such as internal supervisory units, branch heads, sub-branch heads, heads of fields

(finance, membership, services, human resources), assistant regional deputy directors, and risk management divisions (see Table 2). The characteristics of the respondents in this study can also be seen from their level of education, work experience and certification (see Table 3). The educational level of the respondents was 1 respondent with a diploma education level (D3), 12 respondents with a Bachelor's degree (S1), and 37 had a Master's degree (S2). Work experience consists of 2 respondents with 3-5 years of work, 8 respondents with 6-10 years of work, and 40 respondents with more than 11 years of work. The certification consisted of 14 respondents who had certification and 36 who did not have certification.

Table 2. Details of research data respondents

Criteria respondents	Amount
The workers of the BPJS Ketenagakerjaan in Central Java who are involved in implementing RBIA	182
Work period less than 3 years	4
The questionnaire was not filled out completely	45
Unresponded questionnaires	63
The questionnaire with outlier data	20
Total respondents	50

Source: Data processed by the Authors in 2022.

Table 3. Characteristics of respondents

Characteristic	Number
Education	
Associate degree (D3)	1
Bachelor's degree (S1)	37
Master's degree (S2)	12
Work experience	
3-5 years	2
6-10 years	8
> 11 years	40
Certification	
Have certification	14
Does not have certification	36

Source: Data processed by the Authors in 2022.

4.2. Validity and reliability test

Test the quality of research data using the validity test and reliability test. The validity test is seen from the results of a significance value of 0.000. All question items received a significant value of 0.000, so, it can be concluded that all questionnaire instruments are valid (see Table 4). The reliability test is seen from Cronbach's alpha value, namely: *RBIA effectiveness*, *competency*, *independence*, and *risk management* have a Cronbach's alpha value above 0.070, so it is concluded that all research data is reliable (see Table 5).

Table 4. Validity test

Variable	Item	Significance	Explanation
RBIA effectiveness (Y)	Y_1	0.000	Valid
	Y_2	0.000	Valid
	Y_3	0.000	Valid
	Y_4	0.000	Valid
	Y_5	0.000	Valid
	Y_6	0.000	Valid
	Y_7	0.000	Valid
	Y_8	0.000	Valid
	Y_9	0.000	Valid
Competency (X1)	X1_1	0.000	Valid
	X1_2	0.000	Valid
	X1_3	0.000	Valid
	X1_4	0.000	Valid
	X1_5	0.000	Valid
	X1_6	0.000	Valid
	X1_7	0.000	Valid
	X1_8	0.000	Valid
Independence (X2)	X2_1	0.000	Valid
	X2_2	0.000	Valid
	X2_3	0.000	Valid
Risk management (X3)	X3_1	0.000	Valid
	X3_2	0.000	Valid
	X3_3	0.000	Valid
	X3_4	0.000	Valid
	X3_5	0.000	Valid
	X3_6	0.000	Valid
Management support (X4)	X4_1	0.000	Valid
	X4_2	0.000	Valid
	X4_3	0.000	Valid
	X4_4	0.000	Valid
	X4_5	0.000	Valid
	X4_6	0.000	Valid
	X4_7	0.000	Valid
	X4_8	0.000	Valid

Source: Data processed by the Authors in 2022.

Table 5. Reliability test

Variable	Cronbach's alpha	Explanation
RBIA effectiveness (Y)	0.943	Reliable
Competency (X1)	0.935	Reliable
Independence (X2)	0.883	Reliable
Risk management (X3)	0.933	Reliable
Management support (X4)	0.920	Reliable

Source: Data processed by the Authors in 2022.

4.3. The classic assumption test

The classic assumption test for normality uses Kolmogorov-Smirnov with 0.082, which means the research data is normally distributed. The multicollinearity test is seen from the tolerance value > 0.01 and variance inflation factor (VIF) < 10 for each variable, so it can be concluded that there is no multicollinearity (see Table 6).

Table 6. Multicollinearity test

Variable	Tolerance	VIF	Status
Competency	0.274	3.646	No multicollinearity
Independence	0.277	3.604	No multicollinearity
Risk management	0.181	5.530	No multicollinearity
Management support	0.233	4.290	No multicollinearity

Source: Data processed by the Authors in 2022.

The heteroscedasticity test can be seen from the significance value obtained for each variable

above 0.070, meaning that there are no symptoms of heteroscedasticity (see Table 7).

Table 7. Heteroscedasticity test

Variable	Sig.	Decision
Competency	0.152	No heteroscedasticity
Independence	0.281	No heteroscedasticity
Risk management	0.070	No heteroscedasticity
Management support	0.080	No heteroscedasticity

Source: Data processed by the Authors in 2022.

Multiple linear regression in Table 8 shows that *independence* has a significant positive influence on RBIA. Meanwhile, the *competency* variable, *risk management* and *management support* do not have a significant influence on the *RBIA effectiveness*.

Table 8. Multiple linear regression

Variable	Sig.	Results
Competency	0.111	No significant positive effect
Independence	0.022	Significant positive effect
Risk management	0.436	No significant positive effect
Management support	0.796	No significant positive effect

Source: Data processed by the Authors in 2022.

5. DISCUSSION

Internal auditor competency has a significant value of 0.111, so *H1* is rejected (see Table 8). Internal auditor competency does not have a significant positive influence on the effectiveness of RBIA. Because the position of internal auditor in the internal audit division at the BPJS Ketenagakerjaan does not require a certain level of education and educational background. Management as a stakeholder views the existence of an internal audit division as important for the company. Management provides equal opportunities for all employees to join the internal audit division. Internal auditors' competencies are more trained and honed through seminars, training and workshops related to internal auditing. Internal auditors already have certification in the field of internal audit, but their number is still inadequate compared to the number of internal audit analysis units, so the effectiveness of RBIA cannot be met.

Independence has a significant value of 0.022, so *H2* is accepted (see Table 8). Internal auditors at the BPJS Ketenagakerjaan have the freedom to carry out internal audit activities by creating direct communication with stakeholders and submitting internal audit results. Internal auditors who are able to maintain independence are defined as having credibility and integrity in carrying out their duties. Stakeholders follow up on audit recommendations and provide corrective responses, so that the implementation of RBIA becomes effective. The results of this test support the findings of Cohen and Sayag (2010), Mihret et al. (2010), and D'Onza et al. (2015).

The significance value for risk management is 0.436 and *H3* is rejected. Risk management is an effort to identify, map risks and recognize significant risks that can hinder the achievement of the corporation's objectives. Risk management is carried out by the corporation in order to comply with the board of directors' regulations regarding risk management and handling. Risk owners are not fully able to identify and recognize risks, so the risk profile does not yet reflect actual conditions. The implementation of internal audits does not take into account the risk profile results from risk

management to identify areas with significant risks. Internal audit tends to consider the risk assessment matrix that the auditor carries out independently. So, the effectiveness of RBIA cannot be achieved.

The results of data processing obtained a significance value of 0.796 and *H4* was rejected (see Table 8). Forms of management support in the form of audit budget allocation, human resource allocation, audit training and seminars can encourage better internal audit implementation. Support management is also related to the strategic existence of internal audits in the corporation's organizational structure. Allocation of internal auditor personnel that is inadequate compared to the number of internal audit analysis units will disrupt the implementation of RBIA and become ineffective. This finding is in line with the research results by Tackie et al. (2016) and Rahadhitya and Darsono (2015), who stated that management support has no influence on the effectiveness of internal audits.

6. CONCLUSION

The BPJS Ketenagakerjaan has the authority to manage very large social security funds for workers. Risks may occur with the BPJS Ketenagakerjaan related to the management of social security funds, so supervision is needed. The monitoring mechanism is carried out by internal audit as stated in the audit charter and regulations of the board of directors. The authority and responsibilities of internal auditors in the company must be clearly defined by the company's top management. This authority should give internal auditors the freedom to conduct audits of records, property, ongoing operations/ activities, and employees.

Internal auditors at the BPJS Ketenagakerjaan carry out internal audits by considering risk aspects in each regional office, branch office, division, or department. The risk management division maps the risks that the organization has but has not been fully able to encourage all elements to be aware of the risks they have. Ideally, internal auditors must also meet professional standards related to competence and independence that support the implementation of internal audits so that they run effectively. The absence of specific educational background and certification requirements for internal auditors means that the implementation of internal audits is felt to be lacking, even though the organization continues to upgrade its knowledge through relevant training and workshops. Management also provides management support in the form of budget allocations, and responses to recommendations for continuous improvement for the organization, but the allocation of the number of internal auditor personnel is still insufficient to support the implementation of audits. The research results provide empirical evidence that independence has a significant positive influence on the effectiveness of RBIA. Competence, risk management and management support do not have a significant influence on the effectiveness of RBIA. The implication of this research is to contribute to providing suggestions for The BPJS Ketenagakerjaan regarding improving the risk management function in building a risk awareness culture (identifying and mapping risks) by each risk owner. Competencies (education,

experience, training, and certification) also need to be considered to support the effective implementation of RBIA. The limitation of this research is that it was only carried out at the BPJS Ketenagakerjaan in

the Central Java regional office in Indonesia, so it was not able to capture the supervision of workers' social security funds.

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