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Updating the Internal Control System Based on Information Technology in Mitigating the Operational Risk

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ABSTRACT: The purpose of this research is to mitigate the operational risk of an insurance company through updating the internal control system based on information technology. In this study, internal control will be proxied by internal factors within the organization who have authority and responsibility related to internal control and risk management, namely the Board of Directors, Board of Commissioners, Risk Monitoring Committee, Internal Audit, and Risk Management Unit. Meanwhile, information technology is proxied by the Information Technology Steering Committee (KPTI), and operational risk is proxied by fluctuation in premium growth (SEOJK 01/ year 2021). The research design used in this study is a quantitative method using secondary data and interviews. This study uses audited financial statements from 15 insurance/reinsurance companies listed on the BEI, in 2019-2023. The reserach desain used quantitative model ,secondary data and interview. According to the discussion and interpretation of this study, the research result is as follows; the board of directors, risk monitoring committee, risk management unit have a significant effect on operational risk, while the board of commissioners and internal audit have an insignificant influence on operational risk. The board of directors, board of commissioners and risk management unit have a significant influence on information technology steering committee, while risk monitoring committee and internal audit have an insignificant influence on information technology. On the other hand, the information technology steering committee has a positive and significant influence in mitigating Operational Risk. The indirect effect of this research is that Risk Management Unit, through Information Technology Steering Committee, has a significant influence in mitigating Operational risk. As a conclusion, by updating the internal control system based on information technology and improving the competency of employee, an insurance company can mitigate operational risk.

KEYWORDS: internal control system, information technology, operation risk, insurance companies

1. INTRODUCTION

In supporting the success of national development, the role of the insurance industry is indispensable to the people of a country. Insurance companies are non-bank financial service institutions that collect funds from people who use insurance services to cover possible losses due to uncertain events or death. Based on insurance policies, insurers have a written commitment to compensate policyholders/insured parties who experience incidents/death.

Recently, the Financial Services Authority (OJK) has noted that 13 insurance companies are currently under special supervision. Specifically, seven companies are from the life insurance industry, and the remaining six are from the general insurance industry, including reinsurance companies. The Executive Director of the Non-Bank Financial Industry Supervisory Agency (IKNB) at the OJK stated that these companies are under special supervision, particularly regarding capital adequacy, solvency ratio (RBC), Investment Adequacy Ratio (RKI), and the accuracy of financial reporting. OJK regulations require a minimum RBC of 120% and a minimum RKI of 100% (Kontan.CO ID Jakarta, December 2022). Previously, OJK had revoked the licenses of several insurance companies, including PT Asuransi Jiwasraya, PT WanaArtha Life. According to a study conducted by SB-IPB (2018), the RBC of general insurance companies showed a decline in RBC from 2013 to 2017, followed by a decline in profits. Additionally, there are 8 companies with RBC values below 130%. This situation has led the insurance industry in Indonesia to face reputational risks, primarily due to the inability to mitigate operational risks. Therefore, this study will focus on operational risk management as the dependent variable.

In line with this, OJK has issued several regulations aimed at improving the compliance of insurance companies with the implementation of good corporate governance, risk management, and financial health. Through POJK No. 44 of 2020, OJK requires financial services companies to implement an effective internal control system for risks inherent in the implementation of business activities at all levels of the organization. The implementation of risk management based on SNI ISO 31000 of 2018 emphasizes the importance of a Risk Governance Structure in supporting an effective internal control system. To support the implementation of risk management, the OJK issued SEOJK No. 1 of 2021 on the Assessment of the Financial Health of Insurance and Reinsurance

Companies, including Sharia-compliant entities. This POJK, among other things, explains the assessment of nine risk profiles of insurance companies, namely inherent risks related to strategic, operational, insurance, credit, market, liquidity, legal, compliance, and reputational risks. In 2021, the OJK also issued POJK No. 4 on the Implementation of Risk Management in Information Technology for Financial Services Companies, emphasizing that the use of information technology can enhance the effectiveness and efficiency of operational activities and the quality of services provided by non-bank financial institutions to consumers, but at the same time can increase risks for non-bank financial services institutions, necessitating the implementation of information technology risk management. POJK No. 4 also requires financial services companies with a certain total asset value to have an Information Technology Steering Committee to assist the Board of Directors in providing recommendations regarding the implementation of information technology within the organization.

In order to maintain the reputation of the organization, insurance companies need to improve and strengthen their internal management systems, including through the implementation of technology-based internal controls. According to Coso (2013), the development of internal controls includes several factors, namely: environmental controls, risk assessment, activity controls, information and communication, and activity monitoring. Furthermore, the purpose of the internal control system, according to COSO, is to enhance internal control so that operational activities can achieve the company's vision and mission. These operational objectives include improving company performance, productivity, and financial growth. This aligns with the following studies: A study on internal control systems by Nurdi, Tahar, and Nurdayani (2019) revealed that internal control systems have a significant influence on fraud prevention. Research by Yuningsih, Suratno, and Merawati (2022) revealed that internal control systems have a significant influence on institutional financial reports. Research by Jati (2017) stated that the disclosure of internal control systems can be used as a mechanism for stakeholder oversight in decision-making.

In line with this, SNI ISO 31.000 emphasizes the implementation of a risk management structure, which includes the Board of Directors and Board of Commissioners as the main roles in risk management, namely, the Board of Directors is responsible for implementation, and the Board of Commissioners performs the function of supervising risk management. In this case, the Board of Commissioners is assisted by the Risk Monitoring Committee. Operational activities in the field of risk management are carried out by the Board of Directors, assisted by the Risk Management Committee, the Risk Management Unit, and other units that act as Risk Owners. Meanwhile, the risk management oversight function is carried out by Internal Audit. This aligns with the research by Aviana, Sumarno, and Rossa (2024), which concluded that the effectiveness of the Board of Directors significantly contributes to improved financial performance, while the role of the Board of Commissioners does not have a significant impact. Risk management plays an important moderating role in the relationship between research variables and financial performance. Therefore, companies must focus on improving the board of directors' performance and risk management to achieve optimal financial performance. The research findings of Tarantika and Solikhah (2019) indicate that only the Risk Management Committee, the size of the board of commissioners, and complexity influence the disclosure of corporate risk management practices. Additionally, the research findings of Nainggolan, Hasudungan, and Kiswara (2013) indicate that a high level of internal auditor involvement in corporate risk management has a negative and significant impact on the reporting of corporate risk management procedure failures. This research implies that Internal Audit should not be involved in the risk management process, given the need to maintain objectivity. This aligns with the research by Merawati and Haryani (2014), which concluded that the partial influence of Internal Audit on Financial Health is not significant. The research by Djali, Jadang, and Merawati (2023) shows that internal auditors can provide advice related to corporate business strategies, namely using capital to implement social responsibility activities that not only create added value for the company in the eyes of the community but also help improve environmental and social sustainability.

In this era of technological development, the implementation of internal control needs to use an integrated information technology system to accelerate data processing, provide high-quality information, and thus support the decision-making process. Conversely, information technology can have negative impacts, creating risks that need to be anticipated. This aligns with research on information technology by Cangara and Sadjad (2014), which states that the use of online technology supports the provision of products, services, and security in a highly efficient manner. The research by Anggraeni, Maulana (2013) concludes that information technology (IT) has a significant influence on the development of modern business. The use of IT in business can increase efficiency and productivity, as well as provide benefits in terms of cost savings and improved product and service quality. However, the use of IT in business also has its challenges and risks.

In this study, internal control will be proxied by internal actors within the organization who have authority and responsibility related to internal control and risk management, namely the Board of Directors, Board of Commissioners, Risk Monitoring Committee, Internal Audit, and Risk Management Unit. Meanwhile, information technology is proxied by the Information Technology Steering Committee (KPTI), and operational risk is proxied by premium growth, by OJK Regulation No. 1 of 2021 (specifically regarding risk profile assessment). Thus, the formulation of the problem in this study is:

1. How does the board of directors influence operational risk
2. How does the board of commissioners influence operational risk
3. How does the risk monitoring committee affect operational risk
4. How does an internal audit affect operational risk

5. How does the risk management unit affect operational risk
6. How does the board of directors affect the information technology steering committee
7. How does the board of commissioners affect the information technology steering committee
8. How does the monitoring committee influence the information technology steering committee
9. How does the internal audit influence the information technology steering committee
10. How does the risk management unit influence the information technology steering committee
11. How does the information technology steering committee address operational risks

The purpose of this research is to evaluate the effects of implementing OJK regulations related to internal control, risk management, and information technology on operational risk mitigation activities, so that the reputation and trust in insurance companies can be maintained.

II. LITERATURE REVIEW

Governance Risk Compliance (GRC)

The GRC guidelines in collaboration with OJK (2020) state: In the GRC concept, it is understood that the implementation of risk management and good organizational governance can only be carried out if and only if there is a culture of compliance with norms, ethics, standards, and regulations that apply within the internal and external environment of the organization. From this perspective, the implementation and development of GRC must be carried out by the entire organization in an intensive, widespread, simultaneous, and comprehensive manner, starting from both the internal and external environments of the organization. With an extensive and concurrent implementation of GRC, it is expected that the organization can adapt in an agile and dynamic manner to the challenges of the times, and the organization can protect and safeguard the interests of all stakeholders effectively.

PUGKI (KNKG, 2021) states that the Board of Directors ensures coordination and capacity building among the main GRC systems, which include governance, strategy management, performance management, risk management, compliance management, and internal audit systems, so that the corporation remains on track in achieving its objectives. The Board of Directors ensures that the department overseeing compliance functions does not simultaneously perform functions that could potentially lead to conflicts of interest.

Internal control system

COSO 2013 states that an internal control system is a process involving the board of commissioners, management, and other personnel, designed to provide reasonable assurance regarding the achievement of the following three objectives:

- Operational effectiveness and efficiency
- Reliability of financial reporting
- Compliance with applicable laws and regulations.

POJK 44 of 2020 states that Non-Bank Financial Services Institutions are required to implement an effective internal control system for risks inherent in the conduct of business activities at all levels of the organization. The implementation of an internal control system includes:

a. Compliance of LJKNB management with Risk Management policies and procedures, as well as laws and regulations, and internal LJKNB policies or provisions;
b. Compliance and effectiveness of the Risk Management function in designing and implementing Risk Management strategies and policies;
c. Availability of complete, accurate, useful, and timely financial and management information;
d. The effectiveness and efficiency of business and operational activities; and
e. The effectiveness of the risk culture within the LJKNB organization as a whole.

Enterprise Risk Management

According to SNI ISO 31.000 (2018), enterprise risk management is a coordinated activity to direct and control organizations related to risk. Furthermore, POJK 44 of 2020 defines risk management as a series of procedures and methodologies used to identify, measure, control, and monitor risks arising from all business activities of non-bank financial services institutions (LJKNB). Risk management for LJKNB must be applied to: Strategic Risk; Operational Risk; Insurance Risk, for: Credit Risk; Market Risk; Liquidity Risk; Legal Risk; Compliance Risk; and Reputation Risk. POJK 28 of 2020 on the Health Level of Non-Bank Financial Institutions states that the assessment of the Health Level of LJKNBs on an individual basis for insurance companies and financing companies is conducted with an assessment scope covering the following factors: a. good corporate governance; b. risk profile; c. profitability; and d. capitalization. Meanwhile, for risk profile assessment, the OJK issued SEOJK No. 1 of 2021, which states that operational risk profile assessment uses the following parameters:

a. Gross premium growth;
b. Ratio of premium claims to gross premiums;
c. Operating expense growth;

d. Ratio of commission expenses to gross premiums;
e. Ratio of operating expenses incurred by affiliated companies to total operating expenses;
f. Number of fraud cases in the last 3 years; g. Number of information technology disruptions that resulted in transaction process failures;
h. Employee turnover ratio;
i. Cost ratio;
j. Operational risk growth (from risk-based capital/mmbr).

Specifically for the assessment of operational risk profiles using gross premium growth parameters (point a), it is stated that operational risk will arise if premiums grow negatively, thereby disrupting the ability of insurance and reinsurance companies to fulfill their obligations to policyholders and/or insured parties, as well as to carry out their daily operational activities. (SEOJK No. 1/SEOJK.05/2021)

Risk Governance Structure (GRC-OJK Handbook 2020)

The process of managing a company can be carried out effectively with the support of governance, risk, and compliance (GRC). Governance, risk, and compliance (hereinafter referred to as GRC) are three aspects of corporate management that often review the same aspects and processes from different perspectives. Three Main Aspects of GRC 1. Corporate Governance Corporate governance refers to leadership that is responsible for the interests of parties related to the business and external interest groups (e.g., shareholders). This aspect places particular emphasis on internal company regulations and compliance with national and international laws. In addition, corporate governance also prioritizes transparency, efficiency, and trust as the foundation of good leadership. Therefore, good corporate governance provides a framework for all internal and external management decisions. 2. Risk Management Risk management aims to identify any risks that could jeopardize the achievement of company objectives, so that the long-term sustainability of the company's business can be maintained. This process is carried out to make the right decisions from the early stages in order to eliminate or limit problems that could hinder the business. The emergence of risks can originate from internal and external factors. Internal factors include communication errors, inadequate employee competence, or competition between departments and locations. Meanwhile, external factors are usually caused by market changes (declining demand, increasingly fierce competition, or economic crises). 3. Compliance The aspect of compliance relates to the laws and regulations that govern all business flows. Unlike corporate governance, compliance does not only connect the company with specific interest groups or management and employees. Compliance also encompasses the overall norms, ethics, and morals that form the basis of the company's activities. While compliance with legal requirements to avoid criminal liability is a primary concern, corporate social responsibility (CSR) is equally important.

Directors

Based on POJK No. 44 of 2020 concerning the implementation of risk management for Non-Bank Financial Services Institutions, the Board of Directors has the following responsibilities and authorities:

a. Develop comprehensive written Risk Management policies and strategies;
b. Be responsible for the implementation of Risk Management policies and Risk exposure taken by LJKNB as a whole;
c. Evaluate and decide on transactions and Risk limits that require Board approval;
d. Develop a Risk Management culture at all levels of the organization.
e. Ensure the improvement of human resource competencies related to Risk Management;
f. Ensuring that the Risk Management function operates independently; and
g. Conducting periodic reviews to ensure:
    1. The accuracy of Risk assessment methodologies;
    2. the adequacy of the Risk Management information system implementation; and
    3. The appropriateness of Risk Management policies and procedures as well as Risk limit setting.

Board of Commissioners and Risk Monitoring Committee

Based on POJK No. 44 of 2020 concerning the Implementation of Risk Management for Non-Bank Financial Services Institutions, the Board of Commissioners has the responsibility and authority, as follows:

a. Approve and evaluate the Risk Management policy;
b. Evaluate the accountability of the Board of Directors for the implementation of the Risk Management policy as referred to in letter a; and
c. Evaluate and decide on the request of the Board of Directors relating to transactions and risk limits that require the approval of the Board of Commissioners.

(2) Evaluation of the Risk Management policy as referred to in paragraph (1) letter a shall be carried out at least 1 once. time in 1 (one) year, and at any time if there are factors that significantly affect the LJKNB's business activities.

(3) Evaluation of the Board of Directors' accountability for the implementation of the Risk Management policy as referred to in paragraph (1), letter b, shall be carried out at least 1 once) time in 6 (six) months.

The Risk Management Oversight Committee assists the implementation of the duties of the Board of Commissioners by creating a transparent, focused, and independent mechanism in the oversight of corporate risk management. (KNKG, 2021)

Internal Auditor- SNI ISO 31.000

Internal auditors perform their duties objectively and independently. Internal Audit is functionally responsible and reports to the Board of Commissioners through the Audit Committee, has direct access to the Audit Committee and Board of Commissioners, and can communicate and meet directly with the Audit Committee and Board of Commissioners with or without the presence of the Board of Directors. (KNKG, 2021)

PUGKI (KNKG, 2021) states that the Board of Commissioners, through the Audit Committee, monitors and ensures that the internal audit function helps the corporation to achieve its objectives by bringing an objective and disciplined approach to evaluate and improve the effectiveness of risk management, internal control, and corporate governance.

Risk Management Unit

The Risk Management Unit carries out risk management functions, as follows: (POJK 44 year 2021)

a. Compliance of the LJKNB management level with Risk Management policies and procedures, as well as laws and regulations, and internal LJKNB policies or regulations;
b. Compliance and effectiveness of the Risk Management function in designing and implementing Risk Management strategies and policies;
c. The availability of complete, accurate, appropriate, and timely financial and management information;
d. Effectiveness and efficiency in business and operational activities; and
e. The effectiveness of the Risk culture in the LJKNB organization as a whole.

Information Technology

POJK 4/2021 defines Information Technology as a technique for collecting, preparing, storing, processing, announcing, analyzing, and/or disseminating information. Information Technology-Based Transaction Processing is an activity in the form of adding, changing, deleting, and/or authorizing data carried out on the application system used to process transactions.

Regarding information technology, POJK 4 of 2021 requires Non-Bank Financial Services Institutions to implement risk management effectively in the use of Information Technology. (2) The application of risk management as referred to in paragraph (1) includes at least:

a. Active supervision of the Board of Directors and Board of Commissioners;
b. Adequacy of policies and procedures for the use of Information Technology;
c. Adequacy of the process of identifying, measuring, controlling, and monitoring the risks of using Information Technology; and
d. Internal control system over the use of Information Technology.

POJK 4 of 2021 states that Non-Bank Financial Services Institutions with total assets of more than IDR 1,000,000,000,000.00 (one trillion rupiah) must have an Information Technology steering committee, as follows:

(The Information Technology steering committee is responsible for providing recommendations to the Board of Directors related to at least:

a. Information Technology development plan that is in line with the LJKNB's business activities;
b. Formulation of Information Technology policies and procedures;
c. Conformity of approved Information Technology projects with the Information Technology development plan;
d. Conformity of Information Technology project implementation with the approved Information Technology project;
e. The suitability of Information Technology with the needs of management information systems and the needs of business activities of Non-Bank Financial Services Institutions.

Research Hypothesis:

In line with the description above, the hypothesis in this study is:

H	HYPOTHESIS	Hypothesis Explanation
H1	The Board of Directors has a positive and significant influence on operational risk	The Company Law emphasizes that the Board of Directors is responsible for carrying out operational activities with prudence. POJK No. 44/2020 emphasizes the duties and responsibilities of the Board of Directors regarding risk management.
H2	The Board of Commissioners has a positive and significant influence on operational risk	UUPT emphasizes that the Board of Commissioners is responsible for supervising the operational activities carried out by the Board of Directors and providing advice when needed.

		POJK 44 of 2020 emphasizes the duties and responsibilities of the Board of Commissioners in supervising the implementation of risk management.
H3	Risk Monitoring Committee has a positive and significant influence on operational risk	The Indonesian Corporate Governance Code (2021) describes the function of the Risk Monitoring Committee in assisting the Board of Commissioners, overseeing the implementation of risk management.
H4	Internal Audit has a positive and significant influence on operational risk	SNI ISO 31.000 states that the Internal Audit is an independent unit that assures that risk management is carried out accurately and by internal policies.
H5	The Risk Management Unit has a positive and significant influence on operational risk	POJK 44 of 2020 emphasizes that financial services companies need to have a Risk Management Unit that functions to coordinate the implementation of risk management in the company.
H6	The board of directors has a positive and significant influence on the information technology steering committee	POJK 4 of 2021 emphasizes that the Board of Directors needs to have an information technology steering committee that functions to develop the use of information technology in the company.
H7	The Board of Commissioners has a positive and significant influence on the information technology steering committee	POJK 4 of 2021 emphasizes that the Board of Commissioners supervises the Information Technology Steering Committee in the development of information technology to support the company's operational activities.
H8	The Risk Monitoring Committee (RMC) has a positive and significant influence on the information technology steering committee.	The Indonesian Corporate Governance General Guidelines (2021) states that the KPR must assist the Board of Commissioners in supervising the use of information technology developed by the Information Technology Steering Committee.
H9	Internal Audit has a positive and significant influence on the information technology steering committee	POJK 4 of 2021 emphasizes the Internal Audit function in assuring the Board of Directors and Board of Commissioners that internal policies related to the use of information technology have been implemented and developed through the Information Technology Steering Committee.
H10	The Risk Management Unit has a positive and significant influence on the information technology steering committee (KPTI).	POJK 4 of 2021 directs the function of the Risk Management Unit in supporting and developing an information technology-based risk management system. For this, the Risk Management Unit needs to coordinate with KPTI)
H 11	The Information Technology Steering Committee has a positive and significant influence on operational risk	POJK 4 of 2021 emphasizes the function of KPTI in supporting and developing technology-based internal management information systems, including risk management. This can support accuracy and precision in mitigating operational risks.

III- RESEARCH METHODOLOGY

3.1 Research Design

The research design used in this study is a quantitative method using secondary data and interviews. This study uses audited financial statements from insurance/reinsurance companies listed on the BEI, as many as 15 companies, 2019-2023, as follows:

1	PT MSIG Life Insurance Indonesia Tbk
2	PT Bhakti Multi Artha Tbk
3	PT Asuransi Tugu Pratama Indonesia Tbk
4	PT Lippo General Insurance Tbk
5	PT Victoria Insurance Tbk
6	PT Malacca Trust Wuwungan Insurance Tbk
7	PT Asuransi Harta Aman Pratama Tbk
8	PT Asuransi Multi Artha Guna Tbk
9	PT Asuransi Ramayana Tbk

10	PT Asuransi Maximus Graha Persada Tbk
11	PT Asuransi Jiwa Syariah Jasa Mitra Abadi Tbk
12	PT Asuransi Dayin Mitra Tbk
13	PT Asuransi Bintang Tbk
14	PT Maskapai Reasuransi Indonesia Tbk
15	PT Asuransi Jasa Tania Tbk

The independent variable in this study: the internal control system, proxied by the main actors of the company's internal control, namely: the Board of Directors, Board of Commissioners, Risk Monitoring Committee, Internal Auditor, and Risk Management Unit (SNI ISO 31,000). Meanwhile, the dependent variable in this study is Operational Risk, proxied by gross premium growth as stated in SEOJK No. 1 / SEOJK.05 / 2021. Information Technology is proxied by the Information Technology Steering Committee (KPTI) as an intervening variable between the independent and dependent variables to encourage the implementation of a more integrated, accurate, timely, and monitored internal control system, thereby reducing *fraud and the company's operational risk.*

3.2 Variable Operationalization

	DEFINISI	**PROKSI**	**PENGUKURAN**
Internal Control System	The Board of Directors, in carrying out the role of corporate management, must fully carry out its fiduciary responsibilities in good faith and prudence based on relevant and complete information for the long-term best interest of the corporation. long-term best interest of the corporation. (KNKG 2021)	1. Directors	Number of Directors
	The Board of Commissioners, in carrying out its supervisory and advisory role to the Board of Directors, shall fully exercise its fiduciary responsibility in good faith and prudence based on relevant and complete information for the long-term best interests of the corporation. (KNKG 2021)	2. Board of Commissioners	Number of members of the Board of Commissioners
	The Risk Management Oversight Committee assists the Board of Commissioners in carrying out its duties. by creating a mechanism that is transparent, focused, and independent in the oversight of corporate risk management. (KNKG, 2021)	3. Risk Monitoring Committee	Number of Risk Monitoring Committee members
	The internal audit function helps the corporation achieve its objectives by bringing an objective and disciplined approach to evaluating and improving the effectiveness of risk management, internal control, and corporate governance. (KNKG 2021)	4. Internal Audit	Number of Internal Audit members
	The Risk Management Unit coordinates the implementation of risk management, which includes the preparation of the MR framework, MR process, and reporting (SNI ISO 31.000).	5. Risk Management Unit	Number of Risk Management Unit members
Information Technology	Non-bank financial Services Institutions must implement effective risk management in the use of Information Technology and have an Information Technology Steering	Information Technology Steering Committee	Number of Information Technology Steering Committee members

	Committee if the investment value reaches a certain amount. (POJK 4/2021)		
Operational Risk (SEOJK No. 1/SEOJK 05/2021)	Operational risk will arise if premiums grow negatively, thus disrupting the ability of insurance and reinsurance companies to fulfill obligations to policyholders and / insureds as well as for the company's daily operations.	Gross premium growth	The difference between the final gross premium value of the period minus the final gross premium value of the previous period.

3.3 Population & Sample

The population in this study amounted to 15 insurance / reinsurance companies listed on the BEI from 2019 to 2013

Data Analysis Method

Data analysis with Full Model testing was carried out using the SEM method and using the WARP_PLS 6.0 application. This study uses audited financial statement data of Insurance / Reinsurance Companies listed on the IDX from 2019 to 2023.

The equation used in this study is:

Equation 1:

$RO = \alpha + \beta 1Dir + \beta 2\ DK + \beta 3KPR + \beta 4\ KPR + \beta 5\ IA + \beta 8\ KPTI + e$

Equation 2:

$KPTI = \alpha + \beta 9\ DIR + + \beta 10\ DK + + \beta 11\ KPR + + \beta 12\ IA + e$

Notes :

RO = Operational Risk
DIR = Board of Directors
DK = Board of Commissioners
KPMR = Risk Monitoring Committee
IA = Internal Audit
KPTI = Information Technology Steering Committee
e = error

IV- ANALYSIS AND DISCUSSION

This study uses audited financial statement data of Insurance / Reinsurance Companies listed on the IDX from 2019 to 2023. The population in this study amounted to 15 insurance/reinsurance companies listed on the BEI. Independent variables in this study: the internal control system proxied by the main actors of the company's internal control, namely: Board of Directors, Board of Commissioners, Risk Monitoring Committee, Internal Auditor, Risk Management Unit (SNI ISO 31,000). Meanwhile, the dependent variable in this study is Operational Risk, proxied by gross premium growth as stated in SEOJK No. 1 / SEOJK.05 / 2021. Information Technology in the proxy of the Information Technology Steering Committee (KPTI) is an intervening variable between exogenous and endogenous variables. The results of descriptive statistical analysis are presented below:

4. 1 Descriptive Statistical Analysis

The descriptive statistics of the results of this study are as follows;

Table I: Descriptive Statistics

	MINIMUM	MAXIMUM	MEDIAN	MODUS
DIR	- 1,767	1,588	- 0,089	- 0.928
KOM	- 1,793	2,314	0,260	- 0,767
KPR	- 2,696	3,226	- 0,158	- 0,158
IA	- 1,713	4,448	- 0,344	- 0,713
UMR	- 0,616	4,217	- 0,616	- 0,616
KPTI	- 0,551	2,872	- 0,551	- 0,551
RskOp	- 0,581	3,778	- 0,455	- 0,581

Explanation:

1. The average number of members of the board of directors in the study period was the largest at 6 people and the smallest at the minimum limit. Most were at the minimum. A small number of board members indicates a simple and flexible organizational structure when compared to those with a large number of members.

2. Based on the data on the average number of members of the Board of Commissioners in the study period, the largest number was 5 people, and the smallest was close to the minimum limit. Most companies have a minimum number of commissioners. This is adjusted to the size and capability of the company.
3. Based on the data, the average number of risk monitoring committee members in the study period, the largest was 7 people and the smallest was in the minimum position. Most companies have a minimum number of risk monitoring committee members and among them have not made transparency in the financial statements. This is adjusted to the size and capability of the company.
4. Based on the data, the average number of internal audit members in the study period, the largest is 15 people and the smallest is within the minimum limit. Most companies have a minimum number of internal audit members. This is adjusted to the size and capability of the company.
5. Based on the data, the average number of risk management unit members in the study period, the largest is 10 people, namely PT MSIG and the smallest is within the minimum limit. Most companies have a minimum number of risk management unit members and among them have not made transparency in the financial statements. This is adjusted to the size and capability of the company.
6. Based on the data, the average number of information technology steering committee members in the study period, the largest was 10 people, namely PT MSIG, the smallest was within the minimum number limit, and among them had not made transparency in the financial statements.
7. Based on the data, the average growth of the company's net premium (proxy for operational risk/reputation risk) is partly in the position of a minimum, and some of them have even decreased.

4.2 *Coefficients Determination (R SQUARE (R2))*

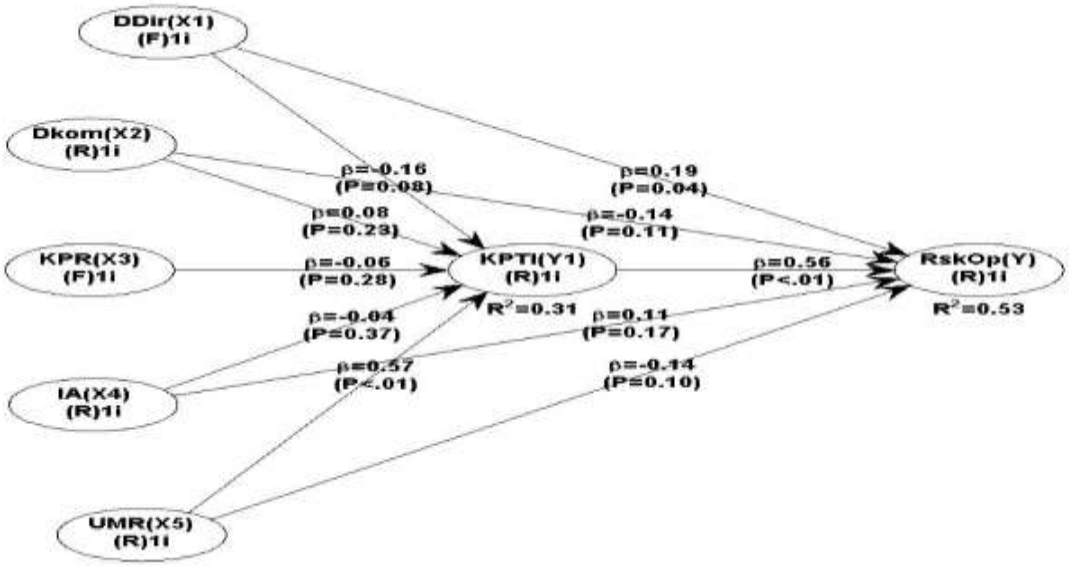
The results of SEM Warp PLS relating to Latent Variable Coefficients are as follows:

R-SQUARE (R2)	
KPTI	30,6%
RS OPERASIONAL	52,6%

R-Squared KPTI of 30.6% shows that the variable influence of the Board of Directors, Board of Commissioners, Risk Monitoring Committee, Internal Audit, Risk Management Unit on the Information Technology Steering Committee (KPTI) is 30.6%% and the remaining 69.4% is influenced by variables outside this study, such as: Audit Committee, Nomination and Remuneration Committee etc. R Squared Operational Rs of 52.6% shows that the influence of the variables of the Board of Directors, Board of Commissioners, Risk Monitoring Committee, Internal Audit, Risk Management Unit and KPTI on Operational Rs is 52.6% and the remaining 48.4% is influenced by variables outside this study, such as: Audit Committee, Nomination and Remuneration Committee etc.

4.3 Full Model Testing Results

The test results with Full Model testing carried out by the SEM method using the WARPPLS 6.0 application are as follows:



The results of Full model testing can be seen in table 2, as follows;

Table 2. Direct Effect Analysis

Hp	HYPOTHESA	BETA	P VALUE	DESCRIPTION
H1	The Board of Directors has a positive and significant influence on operational risk	0,19	0,04	Accepted at Alpha 0,05
H2	The Board of Commissioners has a positive and significant influence on operational risk	-0,14	0,11	Rejected
H3	The Risk Monitoring Committee has a positive and significant influence on operational risk	0,113	0,014	Accepted at Alpha 0,05
H4	Internal Audit has a positive and significant influence on operational risk	0,11	0,17	Rejected
H5	The Risk Management Unit has a positive and significant influence on operational risk	-0,14	0,10	Accepted at alpha 0,10
H6	The board of directors has a negative and significant influence on the information technology steering committee	-0,16	O,08	Accepted at alpha 0.10
H7	The Board of Commissioners has a positive and significant influence on the information technology steering committee	0,23	0,08	Accepted at alpha 0,10
H8	The Risk Monitoring Committee has a positive and significant influence on the information technology steering committee	-0,06	0.28	Rejected
H9	Internal Audit has a positive and insignificant influence on the information technology steering committee	-0.04	0,37	Rejected
H10	The Risk Management Unit has a positive and significant influence on the risk management steering committee.	0,57	Smaller 0,01	Accepted at alpha 0,01
H 11	The technology steering committee has a positive and significant influence on operational risk	0,56	Smaller than 0,01	Accepted at alpha 0,05

Statistical Equations in this study:

RskOp= 0,19 Dir -0,14 DK+ 0,113 KPR+011IA – 0,14 UMR+0,56 KPTI + e

KPTI = - 0,16 Dir+0,23DK-0,06 KPR-0,04IA+0,57UMR + e

Notes :

RO = Operational Risk
DIR = Board of Directors
DK = Board of Commissioners
KPMR Risk Monitoring Committee
IA = Internal Audit
KPTI = Information Technology Steering Committee

Table 3 Indirect effect analysis

Hp	INDIRECT EFFECT	P VALUE	BETA	DESCRIPTION
H12	X1 TO Y1 TO Y: The influence of the Board of Directors on operational risk through KPT is not significant.	0,135	0,075	REJECTED
H13	X2 TO Y1 TO Y: The effect of DEKOM on operational risk through KPT is not significant.	0,284	0,080	REJECTED
H14	X3 TO Y1 TO Y: The effect of KPR (Risk Monitoring Committee) on operational risk through KPT is not significant.	0,326	0,081	REJECTED

H15:	X4 TO YI TO Y: The effect of Internal Audit on operational risk through KPT is not significant.	0,40	0,81	REJECTED
H16	The effect of the Risk Management Unit on operational risk through KPT is not significant	Smaller than 0,1	0,74	ACCEPTED, sign 1%

4.4 Discussion and Interpretation of Research Results

1. Influence of the Board of Directors on Operational Risk
   Based on the table above, the board of directors has a positive (beta = o.19) and significant influence on operational risk with p value = 0.04 at alpha = 0.05, so H1 is accepted. This means, if the operational activities of the Board of Directors increase, the premium growth (proxy for operational risk) will increase 0.19 times. Increased premium growth indicates controlled operational risk management in realizing the achievement of organizational goals. According to SE OJK 01 of 2021, risks will arise if premiums grow negatively, thus disrupting the ability of insurance companies to fulfill obligations to policyholders and the insured, as well as for daily operational activities. The results of this test are in accordance with the research of Aviana, Sumarno, and Rossa (2024), which states that the effectiveness of the Board of Directors, moderated by risk management, contributes significantly to financial performance.
2. Effect of the Board of Commissioners on Operational Risk
   Based on the table above, the board of commissioners has a negative and insignificant influence on operational risk (proxied by premium growth, according to SEOJK 01 of 2021). This is because the responsibility of the Board of Commissioners is to oversee the operational activities carried out by the directors and their staff. By the Company Law, the board of commissioners may not interfere with these operational activities. This is in line with the research of Aviana, Sumarno, and Rossa (2024), concluding that the role of the board of commissioners has no significant effect on risk management. However, this is contrary to the results of research by Tarantika, Solikhah (2019), which shows that the Risk Management Committee, board size, and complexity influence the disclosure of corporate risk management practices.
3. Effect of Risk Monitoring Committee on Operational Risk
   Based on the table above, the risk monitoring committee has a positive and significant influence on operational risk. If the Risk Management Unit activity increases, the premium growth will increase by 0.113 times. Increased premium growth indicates controlled operational risk handling in realizing the achievement of organizational goals. According to SE 05 of 2021, risk will arise if the premium grows negatively, thus disrupting the ability of the Insurance company to fulfill obligations to policyholders and the insured, as well as for the expenditure of daily operational activities. The results of this test are by the General Guidelines for Corporate Governance (KNKG, 2021) which states that the Risk Management Monitoring Committee assists the implementation of the duties of the Board of Commissioners by creating a transparent, focused and independent mechanism in overseeing corporate risk management.
4. The Effect of Internal Audit on Operational Risk
   Based on the table above, Internal Audit has a positive and insignificant effect on operational risk. This is because the Internal Audit unit is responsible for assuring that risk management has been carried out by internal policies, so that to maintain its independence, internal auditors are not allowed to carry out operational activities. In addition, based on the results of descriptive statistics, it was found that the number of workers in the internal audit unit was relatively limited, including only 1 person. This research is in line with the research of Merawati, Haryani (2014), which concluded that the partial effect of Internal Audit on Financial Health is insignificant, considering that internal auditors need to maintain their objectivity regarding operational activities, especially handling financial health. However, the results of this test are not in line with the research of Nainggolan, Hasudungan, and Kiswara (2013), which shows that a high level of internal auditor involvement in corporate risk management has a negative and significant effect on reporting damage to risk procedures.
5. Effect of Risk Management Unit on Operational Risk
   Based on the table above, the Risk Management Unit has a negative and significant effect on operational risk. If the risk management unit activities increase, revenue growth decreases by 0.14 times. A decrease in revenue growth indicates an increase in operational risk faced by the company. According to SE 05 of 2021, risk will arise if premiums grow negatively, thus disrupting the ability of insurance companies to fulfill obligations to policyholders and the insured, as well as for daily operational expenses. In addition, the results of descriptive statistical analysis show that the number of workers in the risk management unit is relatively minimal, and the company has not included disclosures in the report. This means that the risk management unit needs to increase its capacity and capability so that the implementation of risk management can be more effective. The results of this test contradict the GRC Handbook, which states that risk management aims to identify any risks that could jeopardize the achievement of company goals, so that the company's long-term business continuity can be maintained.(OJK-2020)

6. Influence of the Board of Directors on the Information Technology Steering Committee (KPTI)
   Based on the table above, the Board of Directors has a negative (beta = -0.16) and significant influence on KPTI with p value = 0.08 at alpha = 0.10. If the operational activities of the Board of Directors increase, the role of information technology decreases by 0.16 times. This indicates that the capacity to use information technology has not been able to accommodate the entire increase in operational activities. In addition, the results of descriptive statistical analysis show that most companies do not have KPTI. This result is contrary to POJK 4 of 2021, which states that the Information Technology Steering Committee is responsible for providing recommendations to the Board of Directors to carry out operational activities.
7. Effect of Board of Commissioners on Information Technology Steering Committee (KPTI)
   Based on the table above, the Board of Commissioners has a positive (beta = 0.23) and significant influence on KPTI with p value = 0.08 at alpha = 0.10. With every increase in the supervisory activity of the Board of Commissioners, the role of information technology will increase by 0.23 times. The results of this test are in line with POJK 4 of 2021, requiring Non-Bank Financial Services Institutions to implement effective risk management in the use of Information Technology, which includes active supervision of the Board of Directors and the Board of Commissioners.
8. Effect of Risk Monitoring Committee on Information Technology Steering Committee (KPTI)
   Based on the table above, the Risk Monitoring Committee has a negative influence (beta = -0.06) and is not significant to KPTI with p value = 0.28. Every increase in supervisory activities by the Risk Monitoring Committee will reduce the role of KPTI by 0.06 times. This is because the risk monitoring committee functions to assist the board of commissioners in supervising the operational activities of the Board of Directors, while KPTI is a committee of the Board of Directors that functions in supporting the use and development of information technology. This indicates that the Risk Monitoring Committee does not directly interact with KPTI. Based on the results of descriptive statistical analysis, it can be seen that the number of KPTI members is still relatively minimal.
9. The Effect of Internal Audit on the Information Technology Steering Committee (KPTI)
   Based on the table above, Internal Audit has a negative (beta = -0.04) and insignificant effect on KPTI, with p value = 0.37, so H9 is rejected. This happens because internal audit mainly focuses on financial audits, so it has not carried out audits of information technology implementation. In addition, descriptive statistical analysis shows that the number of employees in the internal audit unit is relatively small. This indicates that Internal Audit has not played an active role in information technology, which can be caused by the limited number of employees and knowledge.
10. Influence of Risk Management Unit on Committee Influence of Information Technology (KPTI)
    Based on the table above, the Risk Management Unit has a positive (beta = 0.57) and significant influence on KPTI, with a p value smaller than 1, so H10 is accepted. This means that if the risk management unit activity increases, the KPTI activity will increase by 0.57 times. This is in line with POJK 4 of 2021, which requires Non-Bank Financial Services Institutions to implement effective risk management in the use of Information Technology, including in terms of the adequacy of the process of identifying, measuring, controlling, and monitoring the risks of using Information Technology.
11. Effect of Information Technology Steering Committee (KPTI) to Operational Risk
    Based on the table above, KPTI has a positive (beta = 0.56) and significant influence on Operational Risk, with a p value smaller than one, so H11 is accepted. This shows, if KPTI activity increases, then premium growth (proxy for operational risk) increases 0.56 times. Premium growth indicates controlled operational risk handling in realizing the achievement of organizational goals. According to SE 05 of 2021, risk will arise if the premium grows negatively, while positive premium growth indicates that the operational constraints faced can be mitigated, so that operational risk decreases. This shows that the results of this study are in line with the objectives of POJK4 of 2021. Information Technology as a technique for collecting, preparing, storing, processing, announcing, analyzing, and/or disseminating information.

4.5 Discussion of Research Results (Indirect Effect)

1. Indirect Influence of the Board of Directors to Mitigate Operational Risk through the Steering Committee for Operations Technology (KPTI).

Based on Table 3 above, the indirect effect of the board of directors on operational risk through the information technology steering committee is not significant, with P Value = 0.135 and Beta = 0.075. This means that the Information Technology Steering Committee has not been able to support the policies of the Board of Directors in mitigating operational risk due to the limited number of personnel. If this is compared to the direct influence of the Board of Directors in mitigating operational risk, which has a positive and significant effect, then to mitigate Operational Risk, the Board of Directors should carry out risk management directly according to the authority in the organizational structure and not through KPTI, unless the capabilities of KPTI have been developed.

1. Indirect Influence of the Board of Commissioners to Mitigate Operational Risk through the Information Technology Steering Committee (KPTI)

Based on the table above, the indirect effect of the board of directors on operational risk through the information technology steering committee is not significant, with P Value = 0.284 and Beta = 0.08. This means that the Information Technology Steering Committee has not been able to support the Board of Commissioners in overseeing the activities of the Board of Directors in mitigating operational risk. When this is compared to the direct effect of the Board of Commissioners on operational risk mitigation, which has a negative and insignificant effect, this is in line with the enforcement of the independence function of the Board of Commissioners as an organ that supervises the operational activities that are the responsibility of the Board of Directors.

2. Indirect influence of the Risk Monitoring Committee to mitigate Operational Risk through the Risk Steering Committee

Based on the table above, the indirect effect of the Risk Monitoring Committee on operational risk through the information technology steering committee is not significant, with P Value = 0.326 and Beta = 0.081. This means that the Information Technology Steering Committee has not been able to support the Risk Monitoring Committee in overseeing operational risk mitigation activities. When this is compared to the direct influence of the Risk Monitoring Committee on operational risk mitigation, which has a positive and significant effect, the supervision of operational risk mitigation activities will provide effective results when carried out directly by the Risk Monitoring Committee, rather than through the Information Technology Steering Committee. This is because, in general, the application of information technology is not yet integrated and covers all aspects of organizational activities.

3. The Indirect Effect of Internal Audit on Operational Risk through the Information Technology Steering Committee (KPTI)

Based on the table above, the indirect effect of Internal Audit on operational risk through the information technology steering committee is not significant with P Value = 0.40 and Beta = 0.081. This means that the Information Technology Steering Committee has not been able to support Internal Audit to provide assurance that operational risk mitigation activities have been carried out by internal policies. When this is compared with the direct effect of Internal Audit on operational risk, which has a positive and insignificant effect. This is in line with the role of the Internal Audit unit, which is responsible for assuring that risk management has been implemented according to internal policies, so that to maintain its independence, internal auditors are not allowed to carry out operational activities. In addition, based on the results of descriptive statistics, it was found that the number of workers in the internal audit unit was relatively limited, including only 1 person, and was more focused on financial audits compared to risk management audits.

4. Indirect Influence of the Risk Management Unit in Mitigating Operational Risk through the Information Technology Steering Committee (KPTI)

Based on the table above, the indirect influence of the board of directors in mitigating operational risk through the information technology steering committee is significant and positive, with a P-value of less than 0.01 and Beta = 0.74. This positive influence means that increasing the activity of the risk management unit carried out through KPTI will increase premium growth and indicate a decrease in operational risk (SEOJK.01/ SEOJK. 05/2021). This means that the Information Technology Steering Committee can support the Risk Management Unit in mitigating operational risk. When compared to the direct influence of the Risk Management Unit on Operational Risk, which has a negative and significant influence, then to mitigate Operational Risk, the Risk Management Unit should carry out risk management through the Information Technology Steering Committee, so that operational risk mitigation can be more effective, so that organizational goals are achieved.

V_ CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

5.1 Conclusion

By the results of the discussion, the following can be concluded:

1. The Board of Directors has a positive and significant influence on operational risk The Internal Auditor has a positive and insignificant influence on operational risk. (proxied: premium growth). Increased premium growth indicates controlled operational risk management in realizing the achievement of organizational goals.
2. The Board of Commissioners has a negative and insignificant influence on operational risk. This is because the responsibility of the Board of Commissioners is to oversee the operational activities carried out by the Board of Directors. By the Company Law, the board of commissioners may not interfere with operational activities.
3. The Risk Monitoring Committee has a positive and significant influence on operational risk (proxy: premium growth). Increased premium growth indicates controlled operational risk management in realizing the achievement of organizational goals.
4. Internal Audit has a positive and insignificant effect on operational risk. This is because the Internal Audit unit is responsible for assuring that risk management has been carried out according to internal policies, so to maintain its independence internal auditors are not allowed to carry out operational activities.
5. The Risk Management Unit has a negative and significant influence on operational risk. This means that the risk management unit needs to increase its capacity and ability so that the implementation of risk management can be more effective.

6. The Board of Directors has a negative and significant influence on information technology committee (KPTI). This shows that the capacity to use information technology cannot accommodate all the increased operational activities.
7. The Board of Commissioners has a positive and significant influence on KPTI. This shows the effective role of the Board of Commissioners in overseeing the use of information technology within the company.
8. The Risk Monitoring Committee has a negative and insignificant effect on KPTI. This indicates that the Risk Monitoring Committee does not directly interact with KPTI in carrying out its supervisory function.
9. Internal Audit has a negative and insignificant influence on KPTI. This happens because internal audit focuses more on financial audits than information technology audits.
10. The Risk Management Unit has a positive and significant influence on KPTI. This shows that the risk management unit has been effective in the use of Information Technology, including in terms of the adequacy of the process of identifying, measuring, controlling, and monitoring the risks of using Information Technology.
11. The Information Technology Steering Committee has a positive and significant influence in mitigating Operational Risk. This shows that information technology has an effective role in supporting operational risk mitigation.
12. The Risk Management Unit, through the Information Technology Steering Committee, has a significant influence in mitigating operational risk. This means that the Information Technology Steering Committee can support the Risk Management Unit in mitigating operational risk effectively.

5.2 Implications of Research Results

To improve the internal control system based on information technology that can effectively mitigate operational risks in the organizational environment, it is necessary to do the following:

1. The Board of Directors needs to update the information technology-based internal control system coordinated by the Risk Management Unit, together with the Information Technology Steering Committee. In line with this, the Board of Directors needs to improve the capability of human resources in risk management, governance, compliance, and information technology.
2. The Board of Commissioners, with the assistance of the Risk Monitoring Committee, supervises the updating of the information technology-based internal control system and provides advice when necessary.
3. Internal Audit needs to improve its capability in conducting audits on risk management and information technology.
4. The company needs to develop a risk governance structure and implement the three-line method to implement robust Enterprise Risk Management, so that the company's reputation can be maintained.

5.3 Recommendations and Suggestions

1. For Academics:

Research on this topic can be further developed because it only considers one aspect in measuring operational risk. According to SE OJK no 01/OJK.05/2021, there are several aspects in operational risk assessment:

a. Gross premium growth;
b. Ratio of premiums written to gross premiums;
c. Growth of operating expenses;
d. Ratio of commission expenses to gross premiums;
e. Ratio of operating expenses incurred by affiliated companies to total operating expenses;
f. Number of frauds in the last 3 years;
g. Number of information technology disruptions that result in transaction process failures;
h. Employee turnover ratio
i. Expense ratio
j. Operational risk growth (from risk-based capital/ mmbr.

2. For the Insurance Industry:

The Insurance Industry needs to have General Guidelines for Information Technology-Based Internal Control Systems, which can be a reference for insurance companies in carrying out reputable and trusted operational activities.

3. For Regulators

The Financial Services Authority needs to improve supervision of insurance companies in carrying out their operational activities and implementing commitments to the insured, so that the reputation of the industry can be maintained.

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