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DESIGN OF KEY RISK INDICATORS IN RISK MANAGEMENT AT PT PEMBANGKITAN JAWA BALI SERVICES (PT PJB SERVICES)

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PLANNING *KEY RISK INDICATORS* IN THE RISK MANAGEMENT PROCESS OF A POWER PLANT OPERATION AND MAINTENANCE SERVICES COMPANY (CASE STUDY OF PT XYZ)

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ABSTRACT

The purpose of this research is to design a model and matrix of key risk indicators (KRI) for the company's significant risks, and to design a process for its implementation in the company's risk management process. This research is a case study at PT XYZ that is involved in the electricity sector, especially in the field of operation and maintenance of power plants. The methods used are quantitative and qualitative (both methods). The design of KRI is carried out in the form of determining risk roots, monitoring indicators, as well as thresholds for significant risks that affect and have the potential to thwart the achievement of the company's targets and objectives as stated in its key performance indicators. These significant risks were identified from the strategic risk elaboration set by the company in the risk management guidelines, including the risk of losing out in the competition for new customers. The design of the KRI is expected to help the company to carry out the monitoring process, especially for events that are an indication of the occurrence of a risk. Based on early warnings and information from KRI, the company can take various mitigation actions earlier to reduce the possibility of risk events and impacts caused by these risks.

Keywords: *Risk Management, Key Risk Indicators, Key Performance Indicators, Power Plant*

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1. INTRODUCTION

Growing challenges and business complexity in terms of business strategy, operations, finance, markets and compliance with applicable regulations have led to increased risks faced by companies to achieve their goals. A company which provides power plant maintenance and operation services is one of the companies that has quite high challenges, the company must integrate good generation management from the operating pattern to the machines that are run in order to produce optimal and efficient performance achievements according to the set targets. The effective risk management implementation will assist to manage the risk of every business process that the company runs.

PT XYZ is a company engaged in the operation and maintenance of power plant units where the scope of this product is the management of power plants and their supporting resources to provide electrical energy in a safe, reliable, efficient and high quality process. The company targets the operation and maintenance of power plants not only at the plants owned by the parent company as assignments, but also targets the *Independence Power Producer* (IPP) as a form of contribution within the framework of the goal of meeting national electricity needs and accelerating revenue achievement outside the group. The company's focus is dominated by *market share* obtained from the assignment of the parent company, while on the IPP market side it has not been explored optimally. Along with changes in environmental conditions, the data shows a change in trend from 2015 to 2019 in the *market share* of electricity providers, namely the Entity Group *market share* decreased, while IPP experienced growth this makes PT XYZ's position even more threatened.

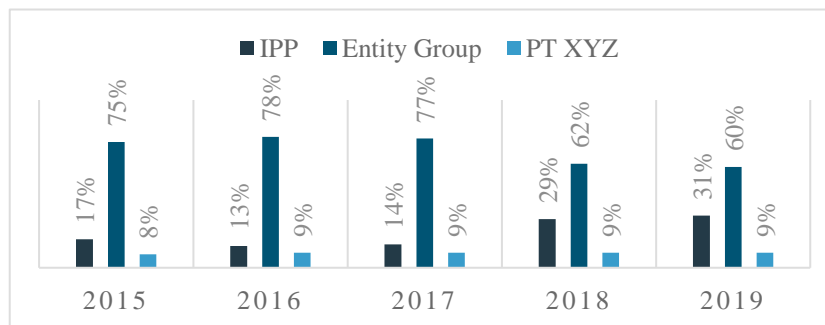


Figure 1. Market Share of PT XYZ

PT XYZ faced uncertainties that can hinder the achievement of predetermined targets. The implementation of risk management in companies has been carried out since 2010 with the establishment of the division of risk management, compliance and environment, health, safety at work (LK3). all risk management functions and placing

shared responsibility for all risk owners including top management and business units (COSO, 2017) in all generation units and support divisions in the company.

According to COSO (2017) One of the important things to implement in the ERM process is the application of *key risk indicators* which aim as indicators and *early warning systems* to detect an event that has a significant impact on the company. The goal is that companies can immediately take mitigation actions, so that things that can cause business failure can be avoided or their impact minimized.

No	Priorities	Measure	Weight	Target		Realization until Juni 2022	Achievement until Juni 2022	NKO until Juni 2022
				RKAP 2022	Juni 2022			
A	Social Economic Value		46					43,9
1	Incomes from Entity Group	Rp. M	14	1.987,96	897,90	861,58	95,95%	13,4
2	Income outside the Group	Rp. M	8	256,92	118,59	100,22	84,51%	6,8
3	Fixed Cost Ratio to Income	%	8	44,51	44,51	45,97	96,72	7,7
4	EBITDA	Rp. M	8	233,71	115,47	118,57	102,68%	8
5	Collection Period	Day	8	75	75	74	101,35%	8
B	Business Model Innovation		20					20
1	Maturity Level Internal Business Process	%	8	100	100	100	100	8
2	Customer Satisfaction Index (CSI)	Score	8	100	100	100	100	8
3	ERM Implementation	Level	4	3	2,5	2,94	118	4
C	Technology		20					20
1	SLA O&M Achievement	%	8	100	100	100	100	8
2	SLA Project Achievements	%	8	100	100	102	102	8
3	Company Ratings	Rating	4	AAA	AAA	AAA	100	4
D	Investment Development		8					8
1	New Contracts	Rp. M	8	190	100	101	101%	8
E	Human Development		6					6
1	Human Capital Readiness	%	3	100	100	145	145%	3
2	Organizational Capital Readiness	%	3	100	100	134	134%	3
TOTAL			100					97,93

Table 1. Achievement of KPI PT XYZ.

Assessing from the achievement of corporate performance in the first half of 2022, there were at least a number of indicators that affected the achievement of corporate performance, namely the achievement of revenue targets outside the company group cannot be achieved, this was caused by many factors, one of which is caused by delays in decisions and mitigation controls made by the company due to the absence of an early warning system or monitoring system for the company's risks. The company only relied on monitoring the risk assessment which was carried out quarterly where it is not optimal to comprehensively *capture* the tolerance limit of the impact of the risks that occurred.

Based on the explanation above, the research aims to identify *Key Risk Indicators* (KRI) regarding significant risks based on the company's risk profile as a design indicator for early warning of risks that can hinder the company to achieving its goals and help company management make decisions more quickly and precise.

2. LITERATURE REVIEW

2.1 RISK MANAGEMENT

Organizations face various kinds of risks and need frameworks and tools to help sort these risks in order to make decisions regarding costs and risks (Moeller, 2011). This process is a risk management process which according to Maralis and Triyono (2019) is an application of management functions in managing risks faced by organizations. Risk management includes planning, organizing and supervising risk mitigation or overcoming plans. The objective of risk management is to create and protect organizational value. According to the COSO ERM Framework (2017) there are four strategic objectives for enterprise risk management, namely:

1. The strategies are developed in line with and support the achievement of the vision and mission as the company's main goals.
2. Operations where the use of company resources can be effectively and efficiently managed.
3. Reporting, specifically the reliability of the company's reporting system to produce valid and credible information.
4. Compliance as an indicator of company compliance with applicable laws and regulations.

In order to achieve the four strategic objectives above, the company must consider the linkages between risk management principles, risk management framework and process of the company as a whole. In addition, risk management can assist to improve performance and encourage innovation in an effort to support the achievement of organizational goals.

The basic concept of risk management is broadly understood by company management as risk management which is seen only as an approach, behind all that risk management itself is actually a flexible strategy that can be applied to various industrial scales, risk management is an attempt to find out, analyze and controlling risk in every company activity with the aim of obtaining higher effectiveness and efficiency (Darmawi, 2016). Meanwhile, according to the Committee of Sponsoring Organizations of the Treadway Commission - COSO (2017), the notion of Enterprise Risk Management (ERM) or integrated risk management is a comprehensive approach in managing risks throughout the company that have the potential to thwart the company's vision and mission by carrying out integrated efforts from all risk management functions and placing shared responsibility with all risk owners including executive management, senior management, and business units. The integrated effort is described as a series of systematic processes in identifying, measuring and prioritizing risks followed by users of frameworks and resources in a fully and economically coordinated manner with the aim of minimizing, monitoring and controlling the likelihood and or impact of a risk.

2.2 COSO ERM FRAMEWORK

One framework that is widely used by companies in their risk management process is the COSO ERM framework. COSO as an organization that specializes in risk has published a new framework that focuses more on risk than ongoing activities, which in 2017 has formed a new framework called COSO Enterprise Risk Management. Moeller (2011) believes that every choice of decision taken by the company, either directly or indirectly, will invite various potential risks and how they are able to manage them to increase the relevance and level of trust of the resulting information to all stakeholders by thinking strategically which directs the company to various choice.

COSO ERM 2017 can provide an overview of how a company's management arrangements need management to be able to adapt to the dynamics of situations and conditions that are constantly changing, as an initial action to be able to increase the quality level and capability of the company in the long term. The COSO framework guidelines have undergone comprehensive changes and developments to assist companies in their operations, especially in the digitalization era which requires companies to be able to have a variety of alternative strategic options by continuing to update them regularly (Pamungkas, 2009). In COSO ERM 2017 which was formulated by the Committee of Sponsoring Organizations of the Treadway Commission, (2017) has five basic components complemented by twenty ERM principles to assist company leaders in analyzing and managing a risk into a measurable and reliable potential in improving performance company on an ongoing basis.

2.3 KEY RISK INDICATORS

Key risk indicators (KRI) are metrics or indicators that can indicate exposure, loss or usually called "problems". Everything that can perform a function can be considered as an indicator of risk. Indicators become a key when tracking an event that is very important, or an indicator that plays a very good and suitable role in doing it, at operational risk itself can be defined as the risk of loss due to processes, systems, human performance, or external events that are not sufficient or fail (Strachnyi., 2015).

Kountur (2021) states strategy is a way to achieve targets in each unit at every level within the organization which has its own strategy to achieve the targets that have been set. These targets are expressed in the form of performance indicators (KPI). The strategy used to achieve this KPI is also known as the initiative strategy, where each of these strategies contains risks. thus there must be an event to identify these risks, because if the risk is allowed then the strategy initiative that has been made will no longer be effective, an alternative strategy is needed which is known as a strategy response or contingency plan. Therefore, to find out the risk that will occur, you can determine the KRI.

In identifying KRI as the first part that needs to be considered is the concept that is, the organization or personal must know what the company's goals are. Furthermore, it is also necessary to know what risks can potentially hinder the achievement of goals and objectives. After knowing the risks, it is necessary to identify which are included as key

risks, namely the risks that are most significant and most decisive and have an impact on achieving targets. If the key risks are known, the next step is to find the root cause or root causes that trigger the occurrence of these key risks. The next step is to find out what indicators can be used as measuring tools in assessing or controlling how much influence the causes of this risk have on the occurrence of existing key risks. After determining these risk indicators, the next step is to identify which risk indicators are considered key or which risk profile has the most available data and is most relevant to the risk cause . If all of these things have been carried out and carried out, the final result can be determined as KRI (CRMS Indonesia, 2014).

Selection of an effective KRI framework starts with a solid understanding of the organization's objectives and the risk-related activities that may affect the achievement of the company's objectives. The relationship and link between the strategic objectives and these risks will help determine what information is most relevant which can serve as an effective indicator of emerging risks. From this potential risk, we will look for what are the core risks and what indicators can affect these risks (KRI), these indicators will be monitored periodically to find out whether there are changes in risk exposure that can hinder the company from carrying out these strategic initiatives (CRMS Indonesia, 2014).

According to Strachnyi (2015), there are several general stages in implementing KRI including:

1. Establish KRI framework.
2. Organize outreach, training or workshops with business units and support units .
3. Identify KRIs associated with significant organizational risks.
4. Set KRI tolerance levels and thresholds, for example green, yellow, and red or low, moderate and high levels.
5. Monitor, report and escalate KRI periodically.
6. Establish a risk mitigation plan to manage risks with increased exposure, for example adding or improving controls, changing or adding strategies.
7. Ensuring the established risk mitigation plan has been executed.
8. Conduct periodic evaluations of KRI frameworks, indicators and thresholds.

When the threshold is at a medium or high level, risk management must escalate it to management or other risk owners. Due to this escalation, management and risk owners must take action to mitigate the risk. For risks which have a large impact and occur frequently, risk mitigation should be able to focus on improving controls. Risk management can coordinate with the risk owner or internal audit to ensure that the established risk mitigation plan is implemented, besides that it is also necessary to evaluate whether the action plan that has been implemented can effectively mitigate risk (Bramantyo, 2012).

The frequency of review of frameworks, indicators and thresholds is an important factor in the KRI process. Generally, the more frequent the review is, the more representative the information presented and obtained will be. In addition, a review of the framework is also needed as a basis for improvement so that the KRI process runs more effectively and efficiently (Behringer, 2012).

3. RESEARCH METHODS

The research was conducted using a case study approach namely analyzing significant risks and designing the process of its application in the implementation of corporate risk management. Processing and data acquisition in research is mixed data (primary data and secondary data). Primary data is data obtained directly while secondary data is data obtained from existing sources. The method used to achieve the two research objectives mentioned above is by qualitative and quantitative methods (both method). The research method is dominated by qualitative methods with the existence of quantitative methods in the calculation and sensitivity analysis section to determine the threshold level of the company's significant risk.

Data collection is carried out in accordance with the risk management process, namely direct risk identification by making observations, recapitulating risk owner data, reports and notes owned by the risk owner and direct communication with the risk owner as the main or key risk stakeholder at PT XYZ. The data obtained is then processed, starting from the risk profile or risk causes that need to be identified and designed to become key risk indicators.

Data processing is carried out in the first stage, namely risk assessment with identification of key risks using a root cause approach for both internal and external key risks. The results are then confirmed to the head of the directorate or business unit (risk owner). The second stage is designing to determine the main cause monitoring indicators, namely by determining data sources or company reports, tracking and determining risk limits or thresholds, and the escalation process which is the process of determining notifications based on the thresholds set by the company. The last stage is designing and calculating key risk indicators assessment metrics.

4. ORGANIZATION PROFILE

PT XYZ is part of a sub-holding entity of a state company engaged in the supply of electricity, which was established for the business purposes of presenting and providing operational and maintenance services for power generation units. At present, the company has managed generating units spread across more than 30 locations in Indonesia and is working on more than 100 projects each year.

In its management, the company is led by the President Director and assisted by 5 Directors and 5 Unit Heads. Up to now, the Company's organizational structure continues to make adjustments to respond to the challenges of the electricity business. Along with developments in the electricity business, the company is developing its products by providing various services in power plant management. Current service

products are Operation and Maintenance (O&M) of various types of power plants (PLTU, PLTA, PLTGU, PLTG, PLTMG, and PLTD), operation and maintenance of

balance of plants (water treatment plants, waste water treatment plants, chlorination plants , H2 Plant), Operation and maintenance of Coal & Ash Handling, Routine Maintenance (PdM & PM) of Power Plant, K3 Management, various Overhaul type of power plant, setup and assistance in implementing asset management, repair & rehabilitation, relocation, and remaining life assessment (RLA) power plants.

The implementation of risk management at PT XYZ is driven by the following driving factors:

1. Regulatory drivers , namely the existence of provisions from the Government, in this case the Minister of SOEs, to apply the principles of Good Corporate Governance (GCG), one of the elements of which is the obligation to implement risk management in its business activities.
2. Business driver, PT XYZ as one of the operation & maintenance service companies for power generation units in the midst of a global business environment that has implemented and developed risk management in achieving their strategic and operational goals, must apply risk management immedietly and consistently in its business activities.
3. Compliance, one of the principles in the implementation of risk management is the aspect of compliance with applicable rules and regulations. This is also one of the factors driving the implementation of risk management, because it is the beginning of the risk mitigation stage.

With the implementation of risk management in the corporate environment, it is expected that benefits will be obtained, including:

1. The company can identify potential risks that may arise, which can significantly affect (even thwart) the achievement of the company's vision and goals
2. The company has the ability to measure the level of each risk, so that in advance the company can prepare appropriate mitigation measures related to the identified risks, whether to take the risk, decrease the likelihood of its occurrence, minimize the potential impact or minimize the potential possibleness or even transferred the risk to another party.
3. With earlier mitigation planning, the resources needed to handle these risks which can be managed better, more effectively and efficiently and avoid potential greater losses due to unmanaged risks.

The implementation of PT XYZ risk management is based as part of the implementation of good corporate governance which is regulated in the provisions of the Regulation of the Minister of State for State-Owned Enterprises Number PER-

01/MBU/2011 dated 11 August 2011 concerning Implementation of Good Governance (GCG), while the reference standard used by the company is guided by COSO ERM 2017.

The company conducts risk management periodically with a period of every three months (quarterly), the company's risk management is contained in a risk management and compliance evaluation's report prepared by the risk management, compliance and LK3 directorate. On the other hand, the company has not considered the company's significant risk indicators, therefore the design of key risk indicators in the company's risk management process is a part that needs to be implemented so that the company's goals and objectives can be achieved optimally.

5. RESULT AND DISCUSSION

The KRI framework is needed as a reference for conducting a comprehensive KRI monitoring process, the stages designed to implement it are determined as follows, namely:

1. Identifying the KRI indicators related to significant risks.
2. Setting the tolerance level and threshold (threshold) KRI.
3. Monitoring, reporting and escalating the KRI periodically.
4. Establishing a risk mitigation plan to manage risks with increased exposure.
5. Ensuring the established mitigation plans which are executed.
6. Evaluating KRI frameworks, indicators and thresholds periodically.

Referring to the performance achievements up to the first half of 2022, at least there are several top risks that are mapped or categorized as significant risks that have the potential to affect and frustrate the achievement of corporate goals. These risks are being unable to compete in the competition to get new customers.

On the other hand, the condition of increasing competitors in the field of operation and maintenance (O&M) services from both domestic and foreign companies, adds and provides its own challenges for companies to support the company's competitiveness, especially outside the Group market . Many companies enter the O&M service business by bringing high technology or access/ownership of raw materials (primary energy), ownership of capital and engineering, procurement and construction (EPC). High-tech ownership in the O&M service business can be seen in technological developments with the presence of ultra-supercritical power plants for coal-fired power plants with a capacity of 1000 MW. The following are several O&M service provider companies formed by companies that have access to primary energy, namely:

No.	Generator Name	Capacity	Consortium and O&M
1	Central Java PLTU, Batang <i>Central Java Power Plant</i> (CJPP)	2 x 1,000 MW	Consortium : PT Bhimasena Power Indonesia (J-Power 34%, Adaro 34%, Itocu 32) O&M : PT BPI (Bhimasena Power Indonesia)

2	PLTU Tanjung Power, Tabalong, South Kalimantan	2 x 100 MW	Consortium : PT Tanjung Power Indonesia (Adaro 65%, PT East West Power Indonesia 35%) O&M : PT TPI
3	PLTGU Java 1, Karawang, West Java	1760 MW	Consortium : PT Jawa Satu Power (PT Pertamina Power Indonesia, Marubeni, Sojitz) O&M : PT Jawa Satu Power
4	PLTU MT Sumsel 8	2 x 620 MW	Consortium : PT Bukit Asam 45% and China Huadian Hongkong Company 55% O&M : PT Huadian Bukit Asam Power

Table 2. O&M Service Companies formed by companies owning primary energy.

PT XYZ implements a pricing strategy based on cost based pricing where service prices are determined by adding an element of profit (margin) in addition to the costs that have been allocated. In the cost-based pricing method, there are several cost indicators that the company must adjust to the market price, such as consumables and tools, so it is rather difficult to control. Only the employment's cost that can be controlled by the company, but it does not guarantee that there will not be any employment clashes and frictions. The following is the price structure that forms O&M services, namely:

- a. The financing components that arise for fixed costs consist of:
 - i. Manpower, namely costs incurred depending on the formation of the workforce used for the project which being carried out. This formation depends on the generating capacity to be managed. The manpower component consists of salary, training, recruitment, spiritual & sport, while the number of personnel in each formation is adjusted to the capacity of the generator being managed.
 - ii. Administrative costs are costs incurred for administrative activities including office equipment, office stationery, official travel and so on.
 - iii. Service fees are costs incurred as a result of services such as outsourcing, equipment calibration, vehicle rental, information systems.
 - iv. Mobilization and demobilization of the workforce.
- b. Financing components that arise for operation and maintenance activities outside of fixed costs (variable costs) such as consumable materials, LTSA materials, supervisory, chemical.
- c. The overhead costs component of head office, which consists of staffing, administration, maintenance, depreciation and marketing expenses.

On the other hand, IPPs as power plant owners (consumers) have the power to choose or form their own O&M service providers needed for the operation and maintenance of their power plant assets. One of the IPP assessment criteria for O&M service providers is price, PT XYZ has several times tried to explore opportunities as an O&M service provider outside the Group market but has not been very successful. Here is a glimpse

of the tender for evaluating the results of O&M service providers where PT XYZ is still far away higher offer price.

	PT XYZ	WINNER
Profession	SUMBAGUT PLTU <i>Operation & Maintenance</i>	
Contract Time	5 years	
Capacity	2 x 50 MW	
Performance Guarantee		
- EAF	80% / Year	
-NPHR	2875 Kcal/kWh	
Price of Work (USD) (Included 10% VAT)	40,830,646	23,800,000
Job Price (Rp) x 14,500	592,044,367,000	345,100,000,000
Job Price / Month	9,867,406,117	5,751,666,667

Table 3. Evaluation results of the Sumbagut PLTU O&M service provider.

PT XYZ is still dominant in pursuing and relying on market share within the Group, even though it has tried to explore markets outside the group it has not yet gotten the desired results, it needs a strategic approach and pattern in determining the right costs to produce competitive price formulations so that in the future in achieving and obtaining new market share costing can be calculated carefully which can successfully win price competition especially outside the Group.

Threshold for non-competitive price rates is calculated by comparing the actual new work contracts with the number of bids issued in a certain period of time. A new work contract will be obtained after the price offer letter has received a response and is approved by the user or prospective customer. Based on the company's risk appetite in accordance with the Risk Assessment Control Matrix (RACM) for negative deviations from the acquisition of new contracts, it can be mapped that the threshold for this KRI is for the realization of the acquisition of new contracts of only $\geq 90\%$ to $\leq 100\%$ of the target issuance price offer letter included in the classification low, the realization of obtaining new contracts is only $\geq 80\%$ to $< 90\%$ of the target for issuance of price offer letters in the moderate classification, the realization of obtaining new contracts $< 80\%$ of the target for issuance of price offer letters is included in the high category. The data that will be taken to carry out monitoring of the KRI is a monitoring report on the issuance of price offer letters and monitoring of new contracts. The threshold table related to KRI uncompetitive price rates is in table 4 below,

KRI indicator	Threshold		
	Low	Moderate	high
Actual new employment contracts vs number of quotations issued based on the time period of the research recommendation (in %)	Realization of obtaining new contracts is only $\geq 90\%$ to $\leq 100\%$ of the target price offer letter issuance	Realization of obtaining new contracts is only $\geq 80\%$ to $< 90\%$ of the target price offer letter issuance	The realization of the acquisition of new contracts $< 80\%$ of the target price offer letter issuance

Table 4. KRI threshold for uncompetitive price rates.

After determining the KRI indicators, the next step is to design a mitigation plan that can reduce the level of risk along with the parties that involved in executing the plan. The details of the risk mitigation plan for the lack of competition with new customers according to the KRI threshold are presented in table 5.

KRI	Threshold states	Risk Mitigation Plan	Person in Charge (PIC)
Actual new employment contracts vs number of quotations issued based on the time period in the research recommendation (in %)	Low	<ol style="list-style-type: none"> Evaluating the structure costs of the O&M and Project through Profit and Loss Analysis Mapping the market and fulfilling personnel as <i>marketing agents with an adequate reward structure and remuneration system</i> Conducting proactive marketing with various industrial lines (pulp & paper, fertilizer, cement, gas & oil) 	Budget Manager (1); Commerce Manager (2.3); Engineering Directorate (2)
	Moderate	<ol style="list-style-type: none"> Carrying out a <i>pricing strategy by implementing strategic dynamic pricing</i> which sets a minimum profit of 5% Creating a <i>standard scope of OM management</i> (organizational structures, maintenance costs & routine services) based on generator type, capacity and industry 	Directorate of Marketing (1,2); Engineering Directorate (2)
	high	Updating the business ecosystem by preparing a <i>digital marketing strategy integration</i>	Directorate of Marketing

Table 5. Risk Mitigation Plan.

KRI monitoring is recommended to be carried out on a scheduled and periodically so that early warning indicators when there is an increase in risk exposure can be immediately identified so that risk mitigation plans or changes in strategy can be carried out quickly. Basically, the shorter the time or period of KRI monitoring, the better the results obtained because the signal of an increase in risk exposure can be known more quickly. However, it should be noted that the obstacles that exist in the process of monitoring KRI risk if it is carried out in a short period will face limited resources, both time and personnel.

In making decisions, risk owners, top management and the board of directors require a report on a comprehensive summary of KRI and mitigation plans that have been and will be implemented. The summary could be presented in the form of executive summary which contain threshold level and analysis data trend, the risk mitigation plan to be implemented, the target time, and the person who will be responsible for doing it. The executive summary can assist risk owners and interested parties to see the overall increase in risk exposure and assist in a quick decision-making process.

In its implementation, the directorate of risk management, compliance and LK3 will update or update the KRI executive summary report every monitoring period. Completion of the KRI executive summary report will contain the following information:

1. The threshold level will contain information in the form of documentation related to the threshold from the results of the previous monitoring periods and the latest monitoring period so that trend data will be presented which can describe the trend of the likelihood of the risk that being monitored with the aim of being able to provide information to risk owners.
2. Existing controls will record what controls which have been implemented or existed to mitigate managed risks. This information is needed to measure or escalate whether the existing controls are sufficiently qualified and effective in mitigating the risks being managed.
3. The mitigation plan will contain any information on what actions that will be carried out, the target time for completing them, and the personnel that responsible for these mitigation actions.
4. Other records can be used to inform what matters are of concern or important to be known by risk owners and the board of directors.

6. CONCLUSION AND RECOMMENDATION

The results of the study determined the design of the KRI system which consisted of a framework, determination of key risks and thresholds that could be applied for companies to monitor as early signal information indicating a significant increase in risk exposure at PT XYZ. KRI monitoring must be monitored and carried out by the Directorate of Risk Management, Compliance and LK3 continuously and consistently to record and provide early signal information on the development in the company's risk exposure. Based on the results of this information, the Directorate of Risk Management, Compliance and LK3 conducts escalation and calibration with risk owners and company leaders, in this case the board of directors, to evaluate action plans or changing strategies

so that immediate action is taken to protect the company from potential impacts if the risk is truly happened.

PT XYZ has significant risks that can frustrate the achievement of goals and affect the company's performance in 2022, one of it is being unable to compete in the competition to achieve new customers. For this risk, this study has designed KRI and thresholds that can be used by companies to monitor as an early warning system for increased risk exposure, besides that a mitigation plan has also been prepared to deal with increased risk exposure.

As for the advice that will be given, namely for the Directorate of Risk Management, Compliance and LK3 to further strengthen and establish coordination with the Internal Control Unit in monitoring and validating the risk mitigation have carried out, especially in units spread across several operational areas of the company. This coordination is carried out with the aim of overcoming the limited resources owned by the Directorate of Risk Management, Compliance and LK3 as the second line in risk management with the many business operations and the complexity of problems that have potential to arise and occur

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