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ABSTRACT

This study aims to evaluate the level of risk maturity using the RIMS Risk Maturity Model 2022 approach at PT X, a State-Owned Enterprise in the construction sector, in carrying out the government assignment of the investment project for the Trans Sumatra Toll Road. The Trans Sumatra Toll Road investment project is categorized as high risk due to its perceived low investment feasibility. This study contributes to a deeper understanding of how the company manages risks with a different business model (non-profit). The qualitative research employs a single unit analysis (embedded) case study method with triangulation data collection using research instruments such as interviews, documentation, and observation. Descriptive Qualitative Analysis is utilized as the method for data analysis. The overall result of the Risk Maturity Level assessment obtained a score of 3.76 out of the largest scale of 5, placing it at the Tier-3 level, indicating that the organization has the capability of repeatable risk management processes. The findings of this research provide relevant recommendations for the improvement and enhancement of risk management implementation in the company.

Keywords: *Trans Sumatera Toll Road, Government Assignment, Toll Road Investment Risk, RIMS Risk Maturity Model.*

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1. INTRODUCTION

To promote the growth of the national economy, the government is striving to accelerate and expand new economic growth centers throughout Indonesia. To achieve this, the government has developed a strategic plan that outlines policy directions in various priority sectors, packaged within the Framework of National Strategic Projects (Proyek Strategis Nasional - PSN). These projects represent the government's working programs to enhance development equity and societal welfare. One of the government's efforts in promoting development equity is prioritizing development on the island of Sumatra. Based on statistical data, Sumatra ranks second in contributing approximately 23% of the national Gross Domestic Product (GDP), just below Java. This signifies that Sumatra has significant potential to produce essential goods or services for the country (Putri, 2022). The project's main objective is to shorten travel distances, reduce logistics costs, facilitate easier distribution of goods, and improve connectivity in underdeveloped areas. By doing so, the project aims to stimulate regional growth and create a multiplier effect on the national macro economy, ultimately impacting the national GDP positively.

According to Fakhurozi et al. (2020), the Trans Sumatra Toll Road connects the provinces of Aceh to Lampung through 24 toll road sections with a total length of approximately 2,813 km. The estimated investment cost for this project is around Rp 476 trillion. However, according to Abdurachman (2015), the Trans Sumatra Toll Road project has a low Finance Interest Rate of Return (FIRR), resulting in less interest from investors to invest in the toll road. This observation is further supported by Riyanto & Joesoef (2020), stating that the financial profile of the Trans Sumatra Toll Road is currently not deemed feasible, although it does hold economic viability.

The government's effort to continue accelerating the development of this toll road project is by assigning the project to companies with experience in toll road construction and whose shares are 100% owned by the government. This is regulated by Peraturan Presiden Republik Indonesia Nomor 131 Tahun 2022 Tentang Perubahan Kedua Atas Peraturan Presiden Nomor 100 Tahun 2014 Tentang Percepatan Pembangunan Jalan Tol Di Sumatera. On the other hand, PT X, as State-Owned Enterprise (BUMN), aims to seek profits. However, it is important to note that one of the primary purposes of establishing BUMNs is to act as government agents that prioritize the overall interests of society.

In executing the Trans Sumatra Toll Road project, various risks, both internal and external to the company, play a significant role. Several studies have provided an overview of the project's conditions. Indriani & Hadi (2021) revealed that the investment project assignment of the Trans Sumatra Toll Road has adversely affected the company's financial health. Dimi & Firmansyah (2022) concluded that the company experienced declines in liquidity and solvency after receiving the assignment. Moreover, looking beyond financial factors, from a social perspective, Donovan (2002) dalam Zairin (2019) argued that the success of a project depends on obtaining social legitimacy. Subsequently, it becomes crucial to maintain and improve that legitimacy to avoid legitimacy gaps.

Conceptually, risks arise in every organization while striving to achieve specific objectives, and they can negatively impact the organization due to uncertainties and

deviations from the set targets. Therefore, risk management is necessary as a structured and systematic approach to managing these uncertainties. The application of risk management is a process, and to evaluate and objectively measure its effectiveness in an organization, Risk Maturity is utilized. If risk management is considered the weapon, then Risk Maturity becomes its strategic plan of attack (The Risk Management Society, 2022).

In its implementation, PT X has adopted risk management using the ISO 31000:2018 framework. According to Peraturan Menteri Badan Usaha Milik Negara Republik Indonesia Nomor PER-5/MBU/09/2022 Tentang Penerapan Manajemen Risiko Pada Badan Usaha Milik Negara, pada pasal 5 ayat 1(g) states that *"Dalam Penerapan Manajemen Risiko, Menteri berwenang melakukan evaluasi berkala atas tingkat kematangan risiko BUMN".* Based on this regulation, the measurement of the risk maturity level (Risk Maturity Level) needs to be conducted by the company.

The RIMS Risk Maturity Model 2022 was developed by The Risk Management Society, Inc. (RIMS), a non-profit organization committed to advancing risk management globally. The model is designed to be utilized by Chief Risk Officers and other risk professionals to collaborate with the Board of Directors, Board of Commissioners, Senior Management, compliance functions, and other relevant units involved in risk management implementation. It provides easy application across all industries and various risk spectrums under different conditions. One of the strengths of the RIMS Risk Maturity Model 2022 lies in its thorough testing and evaluation across multiple disciplines, including law, finance, internal audit, risk management, compliance, and information technology. This comprehensive approach ensures that the model is well-rounded and effective in addressing various aspects of risk management. Moreover, the model incorporates the best elements from various existing models and standards, such as the Risk Standard Australia/New Zealand, ISO 31000, BS 31100, OCEG, COSO-ERM, FERMA, Solvency II, COBIT-5, ERM Standard & Poor, Sarbanes-Oxley, and others.

This study utilizes a qualitative approach with a case study strategy. It employs the RIMS Risk Maturity Model 2022 to evaluate the risk maturity level of PT X, using research instruments such as documentation, observation, and interviews with various relevant respondents. The analysis uses a descriptive qualitative method to answer research questions related to evaluating PT X's risk maturity concerning its government-assigned non-profit project, the Trans Sumatra Toll Road.

The study by Simanungkalit (2022) utilized the RIMS Risk Maturity Model 2022 to assess the risk management maturity level in law enforcement institutions. The research findings indicated that the risk maturity level was in Tier-2 "Initial" position, and there was a need for improvement in the Culture and Accountability Pillar, particularly in the context of the social environment. On the other hand, the study conducted by Coetzee & Lubbe (2013) used the RIMS Risk Maturity Model 2006 to evaluate risk management implementation in public and private sector organizations in South Africa. The study provided recommendations that emphasized the importance of Culture and Accountability in achieving an effective risk management framework.

Based on the referenced research, this study can contribute to the literature on risk management evaluation by measuring the risk maturity level using the RIMS

Risk Maturity Model 2022 in different industries and risk spectrums with varying conditions. Specifically, it focuses on State-Owned Enterprises (SOEs) that receive government assignments for the non-profit Investment Project of the Trans Sumatra Toll Road, deemed financially unviable.

2. LITERATURE REVIEW

2.1 Legitimacy Theory

According to Shocker & Sethi (1973), as cited in Shafirah et al. (2022), legitimacy theory is rooted in the social agreement between an organization and society. The sustainability of an organization depends on its ability to fulfill the goals it aims to achieve and provide benefits, whether economic, social, or political, to society. Legitimacy theory, as explained by Degan (2007) as cited in Shahib & Irwandi (2016), states that an organization can only sustain its operations if it gains legitimacy from society and the government by adhering to the rules and regulations applicable to the organization's environment. In essence, this theory emphasizes the interaction between the organization and society. The organization is an integral part of society, so it must consider the social norms and values of the community to attain legitimate status.

In the context of executing the government assignment for the Trans Sumatra Toll Road project, which is deemed financially unviable, the success indicators for the project are not solely measured financially. Non-technical factors, such as the social aspects of the community, become essential determinants of the project's success. The support, trust, and recognition from the community, stakeholders, and the organizational environment are crucial aspects that can influence the organization's reputation, relationships, and sustainability. According to Shafirah et al. (2022), variations in organizational behavior towards prevailing social values can potentially lead to legitimacy gaps. This presents significant risks for the organization, as it may face negative impacts. Therefore, the organization must gain, maintain, and improve social legitimacy to mitigate risks that may hinder achieving its goals. Research by Coetzee & Lubbe (2013) reveals that building Culture and Accountability, especially within the social context of the community, is an effective way to manage risks.

Bansal & Roth (2000), as cited in Zairin (2019), explain that social legitimacy can be demonstrated in several ways, namely: (1) Compliance with laws and regulations. (2) Commitment to managing ecological impact. (3) Building good relationships with the local community. (4) Environmental auditing. (5) Emergency environmental response system. (6) Alignment with environmental advocates.

2.2 Risk Management from Various Perspectives

2.2.1 Risk Management Standards – ISO 31000:2018

The ISO 31000:2018 "Risk Management - Guidelines" standard is used to guide the implementation of risk management in organizations. This standard comprises three components forming an integrated cycle that cannot be separated. These components are (1) Principles, (2) Framework, and (3) Process. Principles are the

foundational elements that every organization should understand when implementing risk management. The Framework provides a structure to guide organizations in implementing risk management, helping them understand the overall structure and approach. The Process is a method that explains the stages involved in identifying, analyzing, and managing risks (Institute of Risk Management, 2018).

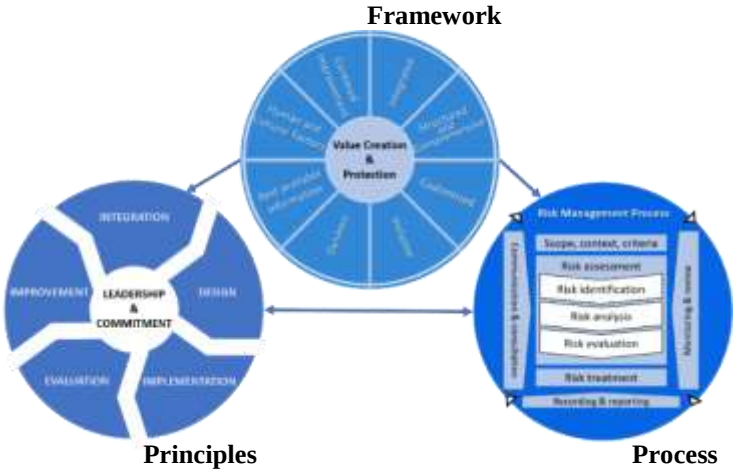

Figure 1. ISO 31000:2018 Framework

1. Guidelines for Toll Road Investment Risk Management

Based on the Guidelines of Pedoman Kementerian Pekerjaan Umum Nomor Pd T-01-2005-B Tentang Analisis Resiko Investasi Jalan Tol, it explains that toll road investment activities in Indonesia have a significant potential for investment failure. Therefore, investment stakeholders are expected to understand the aspects of toll road investment risks. The guidelines provide an overview of the investment cost structure of toll roads and the types of toll road investment risk that companies should pay attention to.

Based on the research by Pusat Litbang Prasarana Transportasi (2003), the investment cost structure of toll roads is as follows:

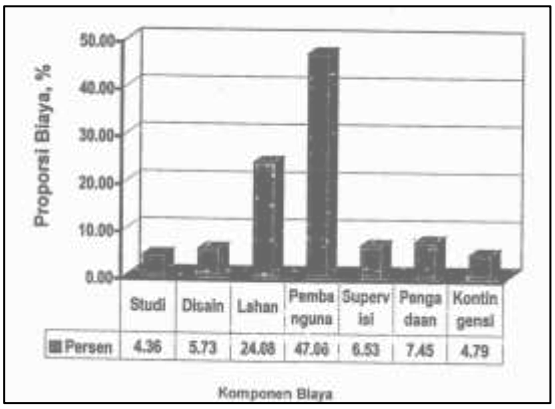

Figure 2. Investment Cost Structure of Toll Roads

The guidelines have categorized Toll Road Investment Risks into three stages and types of risks as follows:

a. Pre-Construction Stage

Permitting Risk, Contractual Risk, Study Risk, Design Risk, Land Acquisition Risk, Political Risk, Legal Risk, and Regulatory Change Risk.

b. Construction Stage

Financing Risk, Construction Delay Risk, Force Majeure Risk.

c. Post-Construction Stage

Operation Risk, Maintenance Risk, and Revenue Risk.

2. Risk Maturity – RIMS Risk Maturity Model 2022

Risk Maturity is a series of stages in evaluating and assessing the key characteristics of a risk management framework, compared to best practices, to determine whether the organization's adopted and planned risk management framework has been complied with. A measuring tool called the Risk Maturity Model is necessary (Coetzee & Lubbe, 2013). Hopkinson (2016) in Aas-Haug & Haskins (2021) revealed that the Risk Maturity Model could be an effective tool to assess the risk management capabilities that can provide an overview of the current situation and the desired situation as an action plan for improvement.

The RIMS Risk Maturity Model is one of the models that can be used to measure the maturity level of an organization in implementing risk management (Simanungkalit & Tobing, 2022). The Risk and Insurance Management Society, Inc in 2001 developed this model. The attributes of RIMS are designed to be compatible with various specific frameworks such as COSO ERM, COBIT 4.0, Sarbane-Oxley, etc. (The Risk Management Society, 2006), making it convenient for implementation in all industries and across a wide spectrum of risks with various conditions.

The main pillars in the RIMS Risk Maturity Model 2022 consist of the following:

- **Pillar I: *Strategy Alignment***

  This pillar has 6 (six) attributes with a weighting of 25% in the assessment. This pillar describes the organization's decisions in integrating risks arising from strategies and threats to those strategies themselves. To what extent do leaders understand the relationship and act based on the potential consequences of identified risks.

- **Pillar II: *Culture and Accountability***

  This pillar has 7 (seven) attributes with a weighting of 30% in the assessment. This pillar depicts the consideration of risks extending from the risk governance body to all personnel. Risk owners understand and take actions commensurate with their responsibilities, both internally and in the operational environment. Risk management competence is demonstrated throughout the organization. Risk management discipline reflects the values/principles of culture and ethics applied.

- **Pillar III: *Manage Organizational Risk Capabilities***

  This pillar has 7 (seven) attributes with a weighting of 20% in the assessment. This pillar depicts organizational and individual learning and development levels regarding risk management, alignment, integration, and stakeholder engagement.

- **Pillar IV: *Risk Governance***

  This pillar has 7 (seven) attributes with a weighting of 13% in the assessment. This pillar depicts the level of risk management discipline influencing and interacting within the organization's risk ecosystem. The organization's ability to apply

governance principles and risk management for accountability in managing risks in creating and protecting value, including the assessment, implementation, and improvement of processes

- **Pillar V:** ***Technology and Analytics***

  This pillar has 8 (eight) attributes with a weighting of 12% in the assessment. This pillar depicts how much the organization utilizes technology and analytics to build, collaborate, gain insights, and maintain stakeholder connections. To what extent the organization uses diverse and innovative techniques to report insights, monitor actions, and elevate to appropriate management levels.

Figure 3. Pillars of RIMS Risk Maturity Model 2022

To indicate the risk maturity level from the assessment of attributes in each pillar, the following are explanations of the tiers ranging from Tier-1 to Tier-5 as follows:

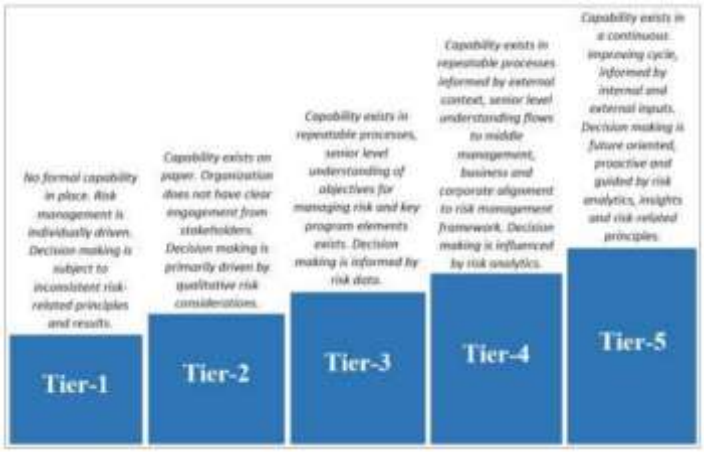

Figure 4. Tiers of RIMS Risk Maturity Model 2022

3. METHODS

3.1 Research Strategy

The research strategy in Yin (2009) states that in conducting research, one needs to consider the following three conditions: (1) the type of research question posed, (2) the extent of control an investigator has over actual behavioral events, and (3) the degree of focus on contemporary as opposed to historical events. Within these conditions, five main research methods can be employed, namely: (1) Experiments, (2) Surveys, (3) Archival analyses, (4) Histories, and (5) Case Studies. This research adopts the Case Study research strategy.

A single case (embedded) case study design is used because this research lacks control over actual behavioral events being studied and focuses on contemporary

situations (phenomena that occur in the present), namely PT X, which is currently undertaking a government assignment related to the non-profit Investment in the Trans Sumatera Toll Road. On the one hand, the company must also generate profit, and this condition necessitates an evaluation of risk management implementation to minimize potential losses and assess the company's readiness to face risks associated with the assignment. This study examines one case by gathering data from several respondents within the organization involved. In order to address the research questions posed in this study,

3.2 Data Collection

Data collection is a stage in research that aims to gather information from relevant sources for the research purpose. According to Hox & Boeije (2004), data can be classified into primary and secondary. Primary data is a private data source directly provided to the data collector. On the other hand, secondary data is not directly provided to the data collector and is public, such as data obtained through other individuals or from documents.

According to Yusuf (2014), the success of data collection is determined by the researcher's ability to determine the Research Instruments. The research instruments used in this study are interviews, documentation, and observation.

a. Interviews

According to Neuman (2014), an interview is a two-way conversation to obtain relevant information by asking questions and listening to responses. It serves to gather data about people's beliefs, experiences, and opinions. Due to the pandemic, this study uses a semi-structured face-to-face interview or communication media such as video conferencing, telephone, and email.

As a guide for interviews to explore phenomena related to the Government Assignment Project of the Trans Sumatera Toll Road, this study utilizes a questionnaire developed based on the RIMS Risk Maturity Model 2022. Respondents were selected based on three lines of defense with sufficient experience and work tenure in Toll Roads and Risk Management, i.e., more than five years. According to Luburic et al. (2015), this concept explains three layers of defense used to assist organizations in effectively managing risks.

Table 1. Respondent Participants

No	Codes	Division	Experience
1	Respondent MR	General Superintendent	>15 years
2	Respondent KP	Risk Management Division	>20 years
3	Respondent BJS	Internal Audit Departement	>15 years

b. Documentation

Documentation in the research instrument refers to the collection of data from documents or written records such as reports, newspapers, policies, procedures, or other documents that can be used to examine and analyze relevant data from different

sources (Miles & Huberman, 1994). The documents used in this research include the company's Annual Reports accessed through the company's website, legislation, books, research journals, and internal company documents such as Risk Management Policies, Guidelines, and Procedures, which are used to answer the questions in the attributes of the RIMS Risk Maturity Model 2022.

c. Observation

According to Angrosino (2007) in Creswell (2013), observation is one of the research instruments used to collect data in qualitative research by recording phenomena that occur using aids, human senses and taking notes for scientific purposes. The observation method used in this research is **Direct Observation**, as the researcher is part of the research object's environment being observed, allowing for unrestricted interaction with the parties involved in this study.

3.3 Validity and Reliability

According to Creswell (2014), research validity and reliability are procedures used to demonstrate the accuracy and convince readers about the data quality in the conducted research. For this qualitative study, the types of validity and reliability assessment used are as follows:

1. **Triangulat**ion involves using data from various sources to compare and ensure the appropriateness and consistency of the research. Creswell (2013) explains that triangulation in research is done by using multiple data sources and methods that provide mutually supporting evidence to validate the accuracy of the research.
2. **Member checking** involves presenting the research findings to the study's respondents to verify the research's accuracy and consistency (reliability).
3. ***Detailed and thick description***, which involves using a detailed and comprehensive description of the observed phenomenon, often supported by direct quotations from respondents or data sources, allows readers to understand the situation more deeply.
4. ***Clarify the bias***, which involves honestly and openly clarifying the background, experiences, and how the involved parties may influence perspectives in the research.
5. ***Negative or discrepant information*** involves discussing evidence that contradicts or goes against the theme, as real-life situations consist of various perspectives that are not always aligned. By presenting such evidence, the explanation becomes more realistic and valid.
6. ***Prolonged time*** involves spending a long time in the research environment. Thus, the researcher can develop a deep understanding of the phenomenon under study and identify the stakeholders who have the credibility to enhance the accuracy and validity of the research findings.
7. ***Peer debriefing*** involves seeking assistance from colleagues or experts in the same field to review the research findings and provide feedback on interpretations and discoveries made. This approach helps the researcher gain different perspectives and improve the interpretations and findings.

8. ***External audit****ing* involves utilizing the expertise of external parties to independently review data, such as financial reports, to ensure that the data used has a high level of validity.

3.4 Data Analysis

The data processing and analysis method used in this research is Descriptive Qualitative Analysis. According to Miles & Huberman (1994), Descriptive Qualitative Analysis in qualitative research is a data analysis method used to describe and explain a phenomenon in depth, presented as narrative descriptions based on predetermined data and methods. This method was chosen because the research predominantly used qualitative approach data, making it more appropriate to provide a comprehensive understanding of the phenomena being studied by addressing research questions using indicators based on the RIMS Risk Maturity Model 2022, obtained through interviews, documentation, and observation.

Stages of Risk Management Implementation Evaluation with Risk Maturity Level Measurement by:

a. The data and information obtained from observations, interviews, and document collection are analyzed for alignment, whether they fall under Tier-1, Tier-2, Tier-3, Tier-4, or Tier-5 levels in each pillar and attribute provided by the RIMS Risk Maturity Model 2022.
b. The validation of the tiering analysis is based on the most appropriate responses from the respondents, compared with the acquired documents, or through document review reinforced by interviews with the most relevant respondents. For example, in Pillar 1 - Strategy Alignment, which consists of 6 attributes, if Attribute 1 in this pillar best represents Tier-5, it is assigned a score of 5.
c. After analyzing all the pillars and attributes, the risk maturity level assessment is calculated by taking the average tiering of each attribute in each pillar and multiplying it by each pillar's weight. For example, in the assessment of Pillar 1 - Strategy Alignment, the average score obtained is 4.33, then multiplied by the weight of that pillar which is 25%, resulting in a score of 1.08 for Pillar 1.
d. Next, the assessment results from each pillar are aggregated and used to determine the overall maturity level of the company, including its tiering according to the RIMS Risk Maturity Model 2022 in Figure 5. For example, suppose the overall sum of the pillars yields an average score of 3.76. In that case, it falls into the Tier-3 category, representing the condition where the company's risk maturity level is at the stage of "having capabilities in recurring processes, understanding the objectives of risk management, and having main program elements at the senior management level. Risk data support decision-making.

Tiering	Value Range
Tier-1	1,0 ≤ Score < 2,0
Tier-2	2,0 ≤ Score < 3,0
Tier-3	3,0 ≤ Score < 4,0
Tier-4	4,0 ≤ Score < 4,5
Tier-5	Score ≥ 4,5

Figure 5. Value Range of Each Tier

e. Validity and reliability assessments are conducted to assess risk maturity levels.
f. From the assessment results, the gaps in risk management implementation can be determined based on the RIMS Risk Maturity Model 2022 indicators to develop improvement recommendations.

4. RESULT AND DISCUSSION

Based on the results of the risk maturity level assessment using the RIMS Risk Maturity Model 2022 approach, the following outcomes were obtained:

Table 2. Result of the Risk Maturity Level Assessment

No	Atribut	*Tier* Score
I	***Strategy Alignment***	
1	Risk Integration Process in Decision Making	5
2	Organizational Perspectives on Future Risk Management Considerations	4
3	Risk Evaluation Process for Strategic Initiatives or Investments	4
4	Consistency in Using Risk Appetite and Risk Tolerance in Decision Making	5
5	Organization's Capability in Implementing Enterprise Risk Management (ERM)	3
6	Risk Considerations for Business Models.	5
	Average Score	**4.33**
	Weighted Score (25%)	**1.08**
II	***Culture and Accountability***	
7	The Influence of Risk Assessment Results on Strategy Changes	5
8	Direct Contributions of Employees and Other Stakeholders in Risk Information Gathering	2
9	The Role of Risk Considerations in Influencing Leadership	5
10	Risk Culture Supervision and Accountability in the Organization	3
11	The Interconnection between Performance Evaluation and Risk Management	4
12	Level of Understanding and Accountability of Leaders in Managing Key Risks	2
13	Active Participation of Leaders in Overall Organizational Risk Assessment.	2
	Average Score	**3.28**
	Weighted Score (30%)	**0.98**
III	***Manage Organizational Risk Capabilities***	
14	Considerations in Evaluating Risk Treatment	5
15	The Level of Analytical Capability of the Organization and Individuals in Assessing Risks	3
16	The Level of Technical Competence of Organizational Risk Management Leaders	5
17	Assessment of Emerging Risks	5

No	Atribut	*Tier* Score
18	Development and Distribution of Risk Information	4
19	Criteria Used in Organizational Risk Assessment	5
20	Understanding of the Organization's Risk Profile.	3
	Average Score	**4.28**
	Weighted Score (20%)	**0.85**
IV	***Risk Governance***	
21	Establishment of Risk Management Oversight Responsibilities in the Organization	3
22	Commitment and Appreciation of Senior Managers to Foster Risk Management Value	4
23	Use of Risk Data for Long-term Planning	5
24	Development of Risk Management Framework or Function	5
25	Availability of Risk Management Policies	4
26	Alignment of Operational or Specialized Risk Functions with the Organization's Risk Management Framework	2
27	Implementation of Organizational Risk Appetite.	2
	Average Score	**3.57**
	Weighted Score (13%)	**0.46**
V	***Technology and Analytics***	
28	Consistency in the Use of Qualitative and Quantitative Analysis	2
29	Utilization of Data and Analytics for Risk Decision Making	2
30	Role of External Source Insights as Complementary to Internal Data in Risk Assessment	5
31	Organization's Confidence in Addressing Bias Effects in Risk Assessment	1
32	Use of Combination of Methodologies or Techniques for Risk Assessment	4
33	Diligence in Assessing Risk Sources or Causes	2
34	Availability of Risk Data for Decision Makers	4
35	Integration of Risk Reporting and Communication within the Organization.	5
	Average Score	3.12
	Weighted Score (12%)	0.37
	Total Weighted Score	**3,765**
	Tiering	**Tier 3**

Based on the table of assessment results, it can be seen that Pillar 1 - Strategy Alignment obtained the highest Score of 4.33, and Pillar 5 - Technology and Analytics received the lowest Score of 3.12. Overall, the implementation of risk management at PT X has been successful. This is evidenced by the company's organizational structure related to risk management governance and the roadmap for risk management implementation for 2019 - 2023, reflected in various improvements in several aspects, which are also assessed in the attributes of the RIMS Risk Maturity Model 2022.

1. Pillar I – *Strategy Alignment*

This pillar describes the organization's decisions in integrating risks generated from its strategies and threats to those strategies. To what extent do the leaders understand the relationships and act based on potential consequences of identified risks.

Risk integration in strategic decision-making is evident through a formal process of making each strategic decision, documented in Risk Management Policies, Manuals, and Procedures. If a risk exceeds the risk tolerance set by management, it

needs to be discussed and evaluated with the relevant board of directors for approval. Additionally, the company considers factors and issues that can disrupt goal achievement, such as political, economic, social, technological, and environmental issues that may impact achieving the company's objectives.

The risk evaluation process is reviewed regularly, considering the established risk appetite and tolerance, especially considering the current situation of undertaking a government assignment that is deemed financially unfeasible. As a result, stress tests are routinely conducted to monitor the company's financial health and targets.

Upon obtaining the government assignment project, the company dynamically adjusts by establishing relevant risk appetite and risk tolerance, incorporating additional Investment IRR and NPV parameters as indicators of strategy achievement. This is further supported by enhancing enterprise risk governance by adopting ISO 31000:2018 standard.

Risk considerations are based on the company's business model developed using the Business Model Canvas (BMC) to identify risks faced in executing the government assignment project for the Trans Sumatera Toll Road Investment. The identified risks in the company's risk profile, such as (1) funding limitations risk, (2) land acquisition delay risk, (3) loan default risk, (4) failure to achieve Trans Sumatera Toll Road revenue, and (5) Reputation risk (related to social), are consistent with the literature in this study. Vincent (2017) explained that in implementing the Trans Sumatera Toll Road Investment project, there are high risks, such as funding limitations and land acquisition risks.

This presentation indicates that the company has successfully integrated risks with changes in its business model to execute the government assignment non-profit project effectively.

2. Pillar II - *culture and accountability*

This pillar depicts the consideration of risk extending from the risk governance body to all personnel. Risk owners understand and take actions commensurate with their responsibilities, both internally and within the operational environment. Risk management competence is evident throughout the organization. Risk management discipline reflects the values/principles of the culture and ethics applied.

The Culture and Accountability pillar is the highest-weighted pillar at 30%. This indicates that Culture and Accountability are critical components in establishing effective risk management, aligning with Coetzee & Lubbe's (2013) emphasis on using Culture and Accountability to achieve an effective risk management framework. This finding aligns with Simanungkalit's (2022) research, which highlights the importance of considering organizational culture, especially within the company's operational environment, in implementing risk management.

The implementation of this pillar is demonstrated by the presence of a formal decision-making process by Risk Owners, which must be accompanied by risk assessments and approval from the management in case risks exceed the company's risk tolerance. The oversight and accountability of risk management culture are evidenced by establishing a risk management governance organizational structure

with defined roles and responsibilities for each individual involved in risk management implementation.

This pillar attribute also provides guidance on how the company needs to consider both internal and external Culture and Accountability, which can influence the achievement of risk maturity levels in risk management implementation. "Risk culture is agile, allowing accountability and proactive organizational capabilities to adapt to the dynamic ecosystem," which means that social and environmental aspects also need to be a focus for the organization in risk management implementation.

Referring to the theory of legitimacy, with a social contract between society and the organization indirectly, legitimacy is an essential aspect that can influence reputation, relationships, and the organization's sustainability to achieve its goals. If this relationship is not maintained, it may lead to a legitimacy gap, potentially becoming a risk for the company in achieving its targets. The government assignment for the investment project of Trans Sumatera Toll Road, which is deemed financially infeasible but economically viable to benefit society, external factors such as politics, social issues, and the environment become dominant considerations for goal achievement.

To obtain support, trust, and recognition from the community, stakeholders, and the environment in which the organization operates, Bansal & Roth (2000), as cited in Zairin (2019), explain that organizations can achieve legitimacy through several ways, namely:

a. Compliance with laws and regulations.

This is evidenced by the government assignment basis concerning the Trans Sumatera Toll Road Project through the Presidential Regulation of the Republic of Indonesia Number 131 of 2023 on Accelerating Toll Road Development in Sumatera. The Risk Management and Compliance functions provide regular reports to stakeholders (every three months) or as needed. Periodic audits, both internal and external, are conducted to ensure the company's compliance level.

b. Commitment to managing the ecological impacts

This is demonstrated by preparing and monitoring the Environmental Impact Assessment (AMDAL) document, which is reported every 6 (six) months to the local Environmental Agency and relevant stakeholders. The AMDAL document includes environmental planning documents such as Environmental Impact Analysis (ANDAL), Environmental Management Plan (RPL), and Environmental Monitoring Plan (RKL), including plans for environmental recovery in case of emergencies.

c. We are building good relationships with representatives of the local community around the environment where the organization operates.

The company demonstrates this by implementing the Social and Environmental Responsibility Program to contribute and provide benefits in the project's surrounding areas.

Implementing this attribute in this pillar significantly contributes to assessing the level of risk maturity.

3. Pillar III – Manage Organizational Risk Capabilities

This pillar depicts organizational and individual learning and development levels regarding risk management, alignment, integration, and stakeholder engagement.

The level of learning and development in risk management within this pillar is demonstrated through evaluating risk handling based on the company's risk appetite and tolerance. The goal is to determine the appropriate risk handling for the company. Alternative risk treatment approaches are evaluated based on their likelihood of success and impact.

By undertaking this government assignment project, it can be observed that the company's risk profile tends to have many high or extreme exposures. This indicates that the assignment poses risks that exceed the risk tolerance, but the company's leaders choose to continue the project, exercising their discretion. In stewardship theory, leadership success is demonstrated through effective and efficient risk management, considering that the ongoing project is a non-profit assigned by the government as the principal to improve public welfare.

Management's commitment to enhancing analytical capabilities and individual competence in assessing risks is demonstrated through regular training and certification programs related to risk management, as seen in the company's annual reports.

The organization's development in terms of alignment, integration, and engagement with stakeholders is shown through the sharing of information using the web-based Risk Management System (RMS) application, which serves as a means to compile risk profiles and identify new risks, particularly in obtaining rapid information about external factors such as political, economic, social, technological, environmental, and legal issues that significantly impact the company's objectives.

The identified political issues include the presidential transition 2024, which can determine the continuity of the assignment project. Economic issues involve fluctuations in fuel prices, inflation, and interest rates. Social issues include resistance from affected residents regarding the construction of the Trans Sumatra Toll Road project and the lack of interest in using a toll road with fees. Technological issues encompass cybercrime related to the company's big data and adjustments to technological advancements. Environmental issues involve potential environmental pollution due to project activities, and legal issues include delays by the government in setting toll rate increases.

These aspects demonstrate that the company can manage risk in changing business models for non-profit projects.

4. Pillar IV – *Risk Governance*

This pillar describes the level of risk management discipline influencing and interacting within the organization's risk ecosystem. The organization's ability to apply governance and risk management principles for accountability in managing risks and creating and protecting value, including assessment, implementation, and process improvement.

The implementation of this pillar is evidenced by establishing risk management principles, frameworks, and processes based on ISO 31000:2018. Supervisory responsibilities are demonstrated by establishing risk management governance structures and their respective tasks and responsibilities. The concept of three lines of defense ensures the separation of responsibilities and independence between parts responsible for risk management and those assessing the effectiveness of risk

management. The goal is to help the organization achieve good governance, reduce potential conflicts of interest, and enhance the quality of risk management implementation in the company.

The organization's ability to apply governance and risk management principles is further demonstrated by establishing Risk Management and GCG Committee Charters, Company Risk Management System Manual, Risk Management Policies, and Risk Management Procedures.

These actions indicate that the company has a good ability in risk management governance.

5. Pillar V – *Technology and Analytics*

This pillar depicts how much the organization utilizes technology and analytics to build, collaborate, gain insights, and maintain stakeholder connections. It also assesses how the organization employs diverse and innovative techniques to report insights, monitor actions, and improve management to the appropriate level.

The use of technology in risk management implementation is evidenced by web-based Risk Management System (RMS) and Integrated Dashboard Evaluation Analysis (IDEA) applications, which serve as platforms to provide data accessibility for stakeholders and decision-makers.

Regarding data analytics, the company's capabilities are still limited to qualitative analysis. This limitation arises due to the company's business model, which prioritizes social and environmental impacts over quantitative aspects found in the financial or banking sectors. The dominant impact areas are: (1) Policies or operational activities with legal implications, for example, losing a court case. (2) Policies or operational activities affecting reputation, for example, negative news going viral on social media or a national scale. (3) Policies or operational activities impacting health and safety at work, for example, fatalities or permanent disabilities resulting from work-related incidents. (4) Policies or operational activities impacting society include demonstrations, customer complaints, and stakeholder concerns.

The combination of techniques in risk assessment is still limited to the knowledge of personnel and routine stress testing conducted every three months or when needed to monitor the company's target achievements. More specific techniques, such as Bowtie, Fish Bone, Five Whys, and SWOT, are rarely utilized by the company in assessing the sources or causes of risks.

These aspects demonstrate that the company has a reasonable level of capability in the technological and analytical aspects of risk management.

5. CONCLUSION AND RECOMMENDATION

Conclusion:

Based on the findings of the conducted research, the following conclusions were drawn:

1. The overall risk maturity assessment result indicates that PT X is at Tier-3, which means there is already a capability in repetitive processes, understanding

risk management objectives, and key program elements at the senior management level. Risk data have supported decision-making.

2. Pillar I (Strategy Alignment) scored 4.33 on a scale of 5 (the highest Score). This Score indicates that risk integration in strategic decision-making, especially in carrying out the government assignment of the Trans Sumatera Toll Road Project (non-profit), is already in place. To undertake this assignment, the company has adapted by updating the risk appetite and risk tolerance.
3. Pillar II (Culture and Accountability) scored 3.28 on a scale of 5. This Score indicates that the Culture and Accountability towards the company's social environment is performing well based on the indicators of this pillar, as evaluated using the Legitimacy Theory. However, the Culture and Accountability within the company's internal operations still require improvement. This pillar holds the highest weight in the assessment, which is 30%. Therefore, the potential to enhance the risk maturity score can be achieved through improvements in the indicators within this pillar.
4. Pillar III (Manage Organizational Risk Capabilities) scored 4.28 on a scale of 5. This Score indicates that there is already management commitment to enhancing analytical capabilities and individual competencies in managing risks
5. Pillar IV (Risk Governance) scored 3.57 on a scale of 5. This Score indicates that there are already principles of risk governance with establishing a risk governance organizational structure and developing a risk management framework based on ISO 31000:2018.
6. Pillar V (Technology and Analytics) scored 3.12 on a scale of 5 (the lowest Score). This Score indicates the extent to which the organization has utilized technology and analytics to enhance the quality of risk management implementation.

Recommendation:

The recommendations for improving the implementation of risk management in the company based on the indicators of the RIMS Risk Maturity Model 2022 can be summarized as follows:

1. Improve the risk management process by establishing criteria for compounding and cascading effects and conducting a "Value Capture" study for the non-profit project, Jalan Tol Trans Sumatera.
2. Ensure consistent implementation of protective action plans initiated by the commitment and encouragement from top management.
3. Formalize the risk/reward assessment and cultivate a risk-aware culture through risk-based performance matrices.
4. Establish Key Performance Indicators (KPIs) for risk management compliance.
5. Enhance employees' competencies in data analysis techniques based on competency gaps.
6. Implement a digitalized risk management system accessible to employees and relevant stakeholders in real-time.

7. Improve procedures related to risk management oversight responsibilities and risk criteria.
8. Foster a risk culture through a top-down approach in every organizational Process.
9. Conduct regular awareness campaigns for all employees regarding risk management policies.
10. Develop procedures for implementing methods or techniques to identify root causes and perform risk analysis."

Suggestion:

Research related to the correlation between risk maturity score attainment and the financial health level of the company

Limitations:

1. Limitations in data availability of the company's risk maturity scores measured by the RIMS Risk Maturity Model from the previous year, thus preventing a more in-depth analysis of the correlation between risk management implementation and the company's financial health.
2. Data acquisition was conducted through interviews and the use of company documents. Conducting Focus Group Discussions (FGDs) is necessary to obtain more in-depth information.

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REFERENCES

Aas-Haug, B., & Haskins, C. (2021). The risk maturity model: a new tool for improved risk management and feedback. *INCOSE International Symposium*, *31*(1), 614–633. https://doi.org/10.1002/j.2334-5837.2021.00858.x

Abdurachman, Y. (2015). *Analisis Studi Kelayakan Proyek Jalan Tol Trans Sumatera Berbasis Konsep Rekayasa Nilai Tambah Menggunakan Pendekatan Sistem Dinamik*. Universitas Indonesia.

Coetzee, G. P., & Lubbe, D. (2013). The risk maturity of South African private and public sector organizations. *South African Journal of Accountability and Auditing Research*, *14*(January 2013), 45–56.

Dimi, F. M., & Firmansyah, A. (2022). Kinerja Keuangan PT Hutama Karya (Persero): Dampak Kebijakan Program Percepatan Pembangunan Infrastruktur Jalan Tol Trans Sumatra. *STATERA: Jurnal Akuntansi Dan Keuangan*, *4*(1), 17–36. https://doi.org/10.33510/statera.2022.4.1.17-36

Fakhurozi, A., Ningrum, A. D., & & Amanda, R. (2020). Kajian Studi Dampak Pembangunan Jalan Tol Trans Sumatera (JTTS) Terhadap Infrastuktur dan Lingkungan. *Jurnal Ilmiah*, *1*(September), 14–29.

Peraturan Menteri Badan Usaha Milik Negara Republik Indonesia Nomor PER-5/MBU/09/2022 Tentang Penerapan Manajemen Risiko Pada Badan Usaha Milik Negara, (2022). https://peraturan.bpk.go.id/

Peraturan Presiden Republik Indonesia Nomor 131 Tahun 2022 Tentang Perubahan Kedua Atas Peraturan Presiden Nomor 100 Tahun 2014 Tentang Percepatan Pembangunan Jalan Tol di Sumatera, (2022). https://peraturan.bpk.go.id/

Indriani, R. S., & Hadi, M. (2021). Analisis Financial Distress pada PT Hutama Karya Sebelum dan Sesudah Proyek Jalan Tol Trans Sumatera. *Jurnal Akuntansi Kompetif*. https://www.ejournal.kompetif.com/index.php/akuntansikompetif/article/view/757

Institute of Risk Management, I. (2018). A Risk Practitioners Guide to ISO 31000 : 2018. In *Institute of Risk Management* (p. 20).

Putri, R. A. (2022). *Pengelolaan Risiko Dalam Proses Pengendalian Proyek Infrastruktur Jalan Tol Trans Sumatera Dengan Kontrak Rancang Bangun Untuk Meningkatkan Kinerja Waktu*. Universitas Indonesia.

RIMS. (2006). RIMS Risk Maturity Model (RMM) for Enterprise Risk Management. In *RIMS*. http://www.rims.org/RMM

RIMS. (2022). *RIMS Risk Maturity Model*. http://www.rims.org/Tools/risk-maturity-model

Riyanto, A., & Joesoef, I. E. (2020). Penugasan Badan Usaha Milik Negara Dalam Pengusahaan Jalan Tol: Studi Penugasan PT. Hutama Karya (Persero) Dalam Pengusahaan Jalan Tol Di Sumatera. *National Conference on Law Studies*, *2*(1), 344–379. https://conference.upnvj.ac.id/index.php/ncols/article/download/1466/938

Shafirah, I., Risma, D., & Risma, D. (2022). Pengaruh pengungkapan corporate social responsibility terhadap institutional ownership pada perusahaan high-profile yang listing di bursa efek Indonesia. *Jurnal Ekonomi, Keuangan Dan Manajemen*, *18*(3), 540. https://doi.org/10.29264/jinv.v18i3.11701

Shahib, H. M., & Irwandi, S. A. (2016). Violation of regulation of financial services

authority (FSA), financial performance, and corporate social responsibility disclosure. *Journal of Economics, Business, and Accountancy Ventura*, *19*(1), 141. https://doi.org/10.14414/jebav.v19i1.533

Simanungkalit, D. (2022). *Kajian Atas Maturitas Manajemen Risiko Dengan Pendekatan RIMS Risk Maturity Model Dalam Kegiatan Penyidikan Pada Lembaga Penegakan Hukum Bidang Tindak Pidana Korupsi*. Universitas Indonesia.

Simanungkalit, D., & Tobing, A. N. L. (2022). A Study on the Maturity of Risk Management using the RIMS Risk Maturity Model ® Approach in Investigating Activities at Law Enforcement Agencies for Corruption. *Budapest International Research and Critics Institute-Journal*, *5*(2), 15009–15023.

Pedoman Kementerian Pekerjaan Umum Nomor Pd T-01-2005-B Tentang Analisis Resiko Investasi Jalan Tol, 1 (2005).

Vincent. (2017). *Pengembangan Model Kebijakan Pendanaan Land Lease pada Proyek Jalan Tol (studi kasus Jalan Tol Trans Sumatera)*. Universitas Indonesia.

Zairin, G. M. (2019). *Pengungkapan Sukarela PT Semen Indonesia Tbk: Krisis Legitimasi Pembangunan Pabrik Semen Rembang*. Universitas Indonesia.