

Risk Management Application for shipyard business at PT Marina in Indonesia

Ollipin jusnibilna¹, Tantri YanuarRahmat Syah², Rhian Indradewa³, Edi Hamdi⁴.

^{1,2,3,4}Faculty of Business Economics EsaUnggul University of Indonesia

ABSTRACT: *Indonesia is a maritime country and has abundant natural resources. Therefore, sea transportation is needed, shipbuilding companies have great potential for this. However, risk management is needed to minimize incidents and align company goals. PT Marina is a startup company in the field of shipbuilding. Therefore, PT Marina requires risk management to run the company. The method used by this paper is the ISO 31000:2018 risk management approach. the result is that PT Marina gets a mitigation plan against the risks that exist in the shipyard so that it can make decisions in action and the business can continue to survive and grow*

KEYWORDS—iso 13000:2018,Marina,risk level, risk management, shipyard,

I. INTRODUCTION

Indonesia is an archipelagic country with more than 17,000 islands. According to data from the Central Statistics Agency, Indonesia's area is 1.9 million square kilometers and 2/3 of its area is covered by sea. Besides that Indonesia is a country rich in natural resources one of which is coal. With Indonesia's geographical structure and the wealth of natural resources, it must be balanced with an increase in the number of ships for the transportation of these natural resources, the development of the shipbuilding industry is very important. In order to realize the vision as a developed and prosperous country by 2025, Indonesia is determined to accelerate economic transformation. For that arranged Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia (MP3EI). The focus of MP3EI development is placed on 8 main programs, namely agriculture, mining, energy, industry, marine, tourism, and telematics, as well as the development of strategic areas. PT Marina is a startup company in the shipbuilding sector. Shipyard is a place to build or repair ships, so the shipyard must have; land or land and water form or coastline (Pekalongan, 2017[1]). In today's global business environment, a startup company will constantly face challenges including challenges in managing business risks (Hoganet al, 2011[2]). PT Marina is aware of the market potential. However, the shipbuilding industry also has its own risks. Risk is the potential for loss, which may arise from processes or activities carried out now or events in the future (Erisha et al, 2021[3]). Therefore risk management is needed because the purpose of risk management is to create and protect value while minimizing potential risks (Novia et al, 2020 [4]). Beside that All the risks that could affect an organization can have multiple consequences such as: perturbation of economic performance, effect on professional reputation, environmental and social problems, etc (Florea et al, 2016[5])

II. METHODS

The risk management process implemented by PT Marina as a shipyard company refers to the ISO 31000 standard in 2018 as explained below:

2.1 Scope, Context, and Criteria

risk management process begins with establishing the context of the basic risk parameters related to company's internal and external environment (Saputra et al, 2021[6]) The scope of application is based on the company's business goals in business management (Larasati et al, 2020[7]). The criteria for risk management based on the importance of the risk level.

2.2 Risk Assessment

In risk assessment PT Marina use 3 stage which is risk identification, risk analysis, and risk evaluation. Risk identification is a process that reveals and determines the possible risks facing the resources of the organization (Tchankova, 2002[8]) therefore PT Marina identify focus are on every aspect that PT Marina face such as marketing, operational, human resource and finance. After that, the next stage is risk analysis which is analysis more deep about what affect and how frequently the risk happened. As for the last is risk evaluation, risk evaluation is to prioritize the risks based on risk analysis score and to decide which risks require treatment and the mode of treatment (Alam, 2016[9]).

2.3 Risk Treatment

Risk treatment or also known as risk mitigation is treating the risk that require to being treated base on risk assement. By doing the treatment the risk level will going low and can be concluded in the residual risk map table.

2.4 Communication and Consultation

The communication and consultation plan are determined at an early stage. Communication and consultation is carried out with internal and external stakeholders, including all risk owners and their subordinates, to ensure the effectiveness of the organization's risk management practices at the level expected or required throughout the processes within their area of responsibility.

2.5 Monitoring and Review

The next part is monitoring and review, This stage is done regularly with responsibilities for monitoring and review must be clearly defined. The results of Monitoring and Review are then recorded and reported and used as input from the review of the risk management framework (Susilo,2018[10]).

2.6 Recording and Reporting

The risk management process and its results must be documented and reported through appropriate mechanisms. The unit responsible for managing company risk must analyze the resulting report and then submit the results of the analysis periodically as needed to management (Larasati et al, 2020 [7])

III. RESULT AND DISCUSSION

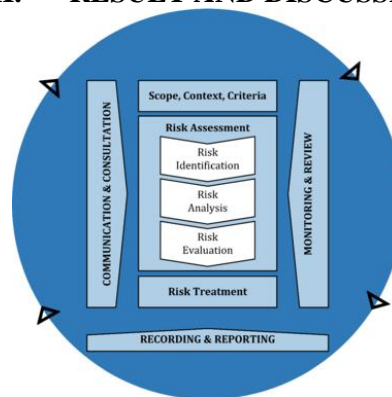


Figure.1 Risk Management Process

Based on the description of the risk management process, the following is the discussion result of the PT Marina risk management.

3.1 Scope, Context, and Criteria

The scope of the study is limited to 21 top risk that disrupt company performance. The context is focused only on marketing, operational, human resources, and finance in PT marina. As for the criteria are based on the importance of the risk level.

3.2 Risk Assessment

The first thing PT Marina has to do is identify risk, then carry out a risk evaluation and risk assessment. the following is the stage

Table 1. identification risk

KODE	RESIKO
Marketing	
R001	Sales target not achieved
R002	Not having a good relationship with customers
R003	Conflicts with business partners
R004	Fraud and fraudulent transactions
Operational	
R005	Quality Control is not thorough
R006	Work accident
R007	Late arrival of the material
R008	Revocation of business license due to regulatory changes
R009	natural disasters
R010	system hack
R011	Power outage
R012	Messy Production Schedule
Keuangan	
R013	Theft of company inventory/assets carried out
R014	Term Of Payment that is too long
R015	Increase in tax rates
R016	Employees commit money corruption
R017	lack of working capital
R018	Increase in minimum wage for employees
Sdm	
R019	Lack of job ability to accept regulations
R020	Lack of education level for the position
R021	Bad employee attendance

Table 2. risk evaluation on risk frequent

Frekuensi Kejadian		
Nilai	Keterangan	Frekuensi
1	Rare/ Sangat jarang	< 2 kali per tahun
2	Unlikely Jarang	2-5 kali per tahun
3	Possible / Biasa	6-12 kali per tahun
4	Likely / Sering	1-7 kali per bulan
5	Certain / Pasti	7-12 kali per bulan

Table 3. risk evaluation on risk impact

Index	Impact	Impact on company reputation (Qualitative)	Impact on company performance targets (Qualitative)	Impact on company business operations (Qualitative)	Impact on Customers
1	Insignificant	No impact	Very small impact, performance targets still can be achieved	No significant operational impact	CSI Value 81% to 100%
2	Minor	Internal impact	Impact on the achievement, and company's performance slightly below the target	There is a problem, shutdown operation < 1 day	CSI Value 81% to 100%
3	Moderate	Local impact (city or district)	Delayed achievement of company targets	There is a disturbance, operational shutdown 1 to 7 days	CSI Value 41% to 60%
4	Major	Regional impact (Province)	Impact on the achievement, and company performance far below the target	There is a disturbance, operational shutdown 1 to 4 weeks	CSI Value 21% to 40%
5	Catastrophic	National scale impact	Not achieving the company targets	An interruption occurred, operational shutdown > 4 weeks	CSI Value 0% to 20%

Table 4 risk assessment on risk inherent map

		Dampak					Risk level	colour
		Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastroph (5)		
Kemungkinan	Certain (5)	R021					High	Red
	Likely (4)	R019			R012		Medium	Yellow
	Possible (3)			R001 R007		R017	low	green
	Unlikely (2)		R009 R020	R018	R005 R004 R003 R011			
	Rare (1)				R016 R013 R006 R002 R015 R010	R008 R009		

Based on risk inherent map, PT marina only tolerated with low risk level. So therefore only 19 risk will be treated or mitigated from a total of 21 existing risks. As for risk items R009 and risk items R020 is acceptable to the company.

3.3 Risk Treatment

Risk treatment performs treatment on the results of the risk assessment. The treatment or Mitigation plan set by the point where the risk is then who mitigation in accordance with anyone who plays a role in the risk mitigation plan. Then once done, the risk will decrease the Risk Priority Numbers (RPN). This is the residual value. After the score is obtained, the score is summarized on the residual risk map. summarized on the residual risk map.

Table 5 risk treatment on residual risk map

		Dampak					Risk level	colour
		Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastroph (5)		
Kemungkinan	Certain (5)						High	Red
	Likely (4)						Medium	Yellow
	Possible (3)		R021				low	green
	Unlikely (2)		R007 R011 R014 R018	R001	R012	R017		
	Rare (1)		R019	R002 R005 R006 R010 R013 R015 R016	R003 R004 R008			

3.4 Communication and Consultation

communication and consultation at PT Marina based on risk level, as follows

Table 6 communication and consultation

RISK LEVEL	ESCALATION LEVEL
low (green)	Team but monitored at directorat level
Medium (yellow)	Directorate/ departement
high (red)	Round of directors and President

3.5 Monitoring and Review

Table 7 Monitoring and Review

No	Activity
1	The Director and staff will prepare procedures and forms for incident reports and mitigation risks.
2	Employees who play a role in the risk of incident must fill out monthly reports and risk mitigation in accordance with the working area.
3	Incident and risk mitigation reports are summarized by each manager and provided every two months.

4	All expense and risk reports from the department are summarized by the director and staff and used for joint review every six months..
5	The risk management report will always be included in the company's annual report.

3.6 Recording and Reporting

Table 8 Recording and Reporting

No	When	Activity	PIC	Monitoring by
1	Every month	Complete individual risk mitigation and incident reports.	Every employee	Setiap manajer
2	Every 3 months	Make a summary of incident reports and risk mitigation for each department.	Each department managers	Finance and administration manager
3	Every 6 months	Summarizes risk mitigation events and reports from all departments.	Finance and administration manager	Round of directors
4	Annual	Membuat laporan manajemen risiko tahunan.	Round of directors	President

IV. CONCLUSION

Based on your description above we can conclude that the risk management process in PT Marina, PT Marina have the 21 risk. Where 2 of them are risks that can be tolerated, but 19 of these risks must be mitigated, of these 19 risks there are 2 risks that are classified as high, so this needs to be a big concern for the PT Marina company. After mitigating the 19 risk points , PT Marina 's risk level has decreased considerably , making 7 points at the medium risk level and 12 points at the low risk level . In this risk management process, the company PT MARINA conducts communication and consultation on the risk level, monitors and reviews so that risk does not occur and the last is recording and reporting as material for improving the risk management process.

REFERENCES

- [1] Pekalongan, P. (2017). Studi Perancangan Galangan Kapal Untuk Pembangunan Kapal Baru Dan Perbaikan Di Area Pelabuhan Pekalongan. *Jurnal Teknik Perkapalan*, 5(2), 353–366.
- [2] Hogan, J., & Lodhia, S. (2011). Sustainability reporting and reputation risk management: An Australian case study. *International Journal of Accounting and Information Management*, 19(3), 267–287. <https://doi.org/10.1108/18347641111169269>
- [3] Erisha, Y., Indradewa, R., Syah, T. Y. R., & Indrawati, R. L. (2021). Implementation of Medical and Non-Medical Risk Management Infertility and Gynecology Over Kamala Clinics. *Journal of Multidisciplinary Academic*, 05(01), 36–40. <http://kemalapublisher.com/index.php/JoMA/article/view/535>
- [4] Novia, R., Syah, T. Y. R., Indradewa, R., & Pusaka, S. (2020). Hotel Risk Management Implementation Based on Technology over LH Hotel. *Journal of Multidisciplinary Academic*, 04(02), 99–101.
- [5] Florea, R., & Florea, R. (2016). Internal audit and risk Management. ISO 31000 and ERM approaches. *Economy Transdisciplinarity Cognition*, 19(1), 72–77. http://www.ugb.ro/etc/etc2016no1/13_Florea_Radu_Florea_Ramona.PDF
- [6] Saputra, A., Indradewa, R., Syah, T. Y. R. & Fajarwati, D. (2021). Risk Management Application for Business Startups " Jamu Partnership " in Indonesia, *International Journal of Research and Review*, 8(8), 148–155.
- [7] Larasati, M. N., Indradewa, R., & Syah, T. Y. R. (2020). Application of Risk Management in Development Noor Halal Minimarket at Islamic Education Institutions. *Journal of Multidisciplinary Academic*, 04(04), 199–202. Retrieved from <https://kemalapublisher.com/index.php/JoMA/article/view/469>
- [8] Tchankova, L. (2002). Risk identification – basic stage in risk management. *Environmental Management and Health*, 13(3), 290–297. <https://doi.org/10.1108/09566160210431088>
- [9] Alam, A. Y. (2016). Steps in the Process of Risk Management in Healthcare. *Journal of Epidemiology and Preventive Medicine*, 02(02). <https://doi.org/10.19104/jepm.2016.118>
- [10] Susilo, Leo J. (2018) Risk Management Guide for Risk Leaders and Risk Practitioners. Jakarta: Grasindo.

*Corresponding Author: Ollipinjusnibilna¹

¹Faculty of Business Economics Esa Unggul University of Indonesia