
RISK MANAGEMENT FOR “STOCKISTS AND FABRICATION ABRASION RESISTANCE PLATE” IN INDONESIA**Ari Pranoto^{1*}, Rhian Indradewa²**^{1,2}Fakultas Ekonomi dan Bisnis, Universitas Esa Unggul, Jakarta-Indonesia Email:
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Abstract:

The abrasion-resistant steel supply and fabrication industry has many potential risks due to errors in the marketing process carried out by the company, lack of worker awareness and discipline regarding work instructions, lack of human resource management and company financial management. PT. Gipan Metal Teknik Indonesia has (PT. GMTI) problems in mitigating the risks it faces. This research aims to identify potential hazards and classify risk values at PT. GMTI. By determining the risk value, the company can provide risk control suggestions for each factor such as marketing, operations, human resources and finance. Key factors that influence the success of risk management implementation include management commitment, employee participation, effective communication, and access to necessary resources. In addition, this research also highlights the challenges faced by the fabrication industry in dealing with risks related to technological changes and increasingly stringent regulatory demands. The research results showed that there were 18 risk events and important implications for the abrasion-resistant steel supply and fabrication industry, emphasizing the importance of integrating risk management for each division at PT. GMTI.

Keywords: Risk management, K3, steel fabrication

INTRODUCTION

The steel industry in Indonesia has experienced significant development, providing a positive impact that continues to increase over time. The projected growth of 100 tons in 2045, as stated at the IISIA Business Forum 2022, indicates the important role of this industry in supporting the national economy. This growth not only creates new jobs, but also causes equal development in various regions. The increase in demand for steel is not only limited to raw materials in sheet form, but also includes demand for steel products that have gone through the fabrication process. This creates opportunities for fabrication companies to provide steel products that suit customer needs. In this context, collaboration between steel producers and fabrication companies is crucial to meet growing market needs.

However, despite the opportunities and growth, it needs to be acknowledged that this industry also carries risks. Fabrication companies are faced with various risks that can cause significant losses. Marketing, operational, human resources and financial risks are challenges that must be overcome wisely.

In facing marketing risks, companies need to have a strong marketing strategy to maintain their competitiveness in an increasingly tight market (IDRIS, n.d.). Meanwhile, operational risks can be overcome by implementing strict security standards and operational procedures. Skilled and trained human resources are key in managing workforce-related risks (Hanggraeni, 2012); (Bairizki, 2020). Apart from that, smart financial management is also needed to overcome financial risks that may arise. Careful monitoring of market conditions and economic policies will help companies make the right decisions to reduce financial risks (Palawe, 2023).

By carrying out a thorough risk analysis, fabrication companies in the steel industry in Indonesia can minimize potential losses and ensure long-term business continuity. As time goes by, collaboration between various stakeholders in the steel industry will be key to achieving sustainable growth and mitigating risks that may arise (Sholeh, 2023).

Risk is something that has not yet happened so PT. GMTI needs to manage and classify these risks. Risks will occur in the company's internal and external environment (Sudarmanto et al., 2021); (Nainggolan, 2023); (Bairizki, 2020). To deal with potential risks, many companies apply risk management principles. And companies will be aware of the risks and impacts they have on the sustainability of the company's business. PT. GMTI will strive to implement risk management to minimize or seek mitigation steps to overcome risks that will occur.

Risk management systems have become an integral part of business practices around the world, and international standards such as ISO 31000:2018 play an important role in providing comprehensive direction (ERKHANANDA, 2021); (Sari et al., 2022); (Zamzami & Faiz, 2018). ISO 31000:2018 sets out the basic principles, framework and processes relevant to help organizations manage risk in an effective way (Pratama & Pratika, 2020); (Aprianto et al., 2021). The importance of this standard lies in its ability to provide clear guidance on identifying, assessing, managing and mitigating risks. By adopting ISO 31000:2018, companies can ensure that their risk management systems comply with best practices and international standards (Rahayu, n.d.).

The principles of ISO 31000:2018 cover key aspects, including organizational context, risk assessment, selection of risk management methods, and communication of information about risks. By following these guidelines, companies can build a strong foundation to meet the challenges and opportunities that arise in an ever-changing business environment. Apart from providing operational reliability, implementing ISO 31000:2018 can also help organizations minimize potential losses, improve decision making, and optimize growth opportunities (Iswahyudi et al., 2023). This standard

creates a structured and measurable foundation for managing risk, thereby helping companies achieve their goals more effectively.

Furthermore, ISO 31000:2018 also places the importance of continuous improvement cycles in risk management (Darsyah, 2023). A process of regular evaluation and adjustment to changes in the business environment or risk factors ensures that the organization remains adaptive and responsive.

By implementing this international standard, companies such as PT. GMTI can gain a competitive advantage, increase stakeholder trust, and increase resilience to risks that may arise in the future. ISO 31000:2018 is not just a guide, but also a powerful tool for achieving long-term sustainability and success. PT. GMTI realizes the importance of risk management in running its business. PT. GMTI is a company that provides and fabricates abrasion-resistant steel. The company has not carried out risk identification and risk management in managing risks that will occur in the company's business processes. With the provision and fabrication services of PT. GMTI strives to provide the best service for its customers. Limited supply of abrasion-resistant materials in Indonesia and customization services or making products according to customer wishes is a risk for the company. And the implementation of zero work accidents for companies must be applied to operations. Maintain relationships with customers, ensure employee welfare and healthy finances for the company. So that PT. GMTI must implement risk management.

MATERIALS AND METHODS

a. Framework



Figure 1. Risk Management *Framework*

Table 1. PT GMTI Risk Management Objectives

Category	Corporate Risk Management Objectives	Target
Short-term (1-2 Years)	Establish risk management committees, roles and responsibilities.	<ul style="list-style-type: none"> • Implement a risk control system. • Determine the composition of the risk management board. • Create risk management documents (form of activity goals and objectives, identification, risk indicators, analysis, mitigation plans, and results)
	Implementation of a risk control system in every work activity (Marketing, Operations, Human Capital and Financial).	<ul style="list-style-type: none"> • Establish Standard Operating Procedures (SOP) and work instructions • Risk control and Occupational Safety & Health (K3) training
	Identify, analyze and determine the level of risk.	<ul style="list-style-type: none"> • Determine the frequency of occurrence and impact of risks.
Medium-term (3-4 Years)	Ensure and monitor the implementation of risk management (identification, measurement, mapping, mitigation and evaluation) is optimal according to company policy.	<ul style="list-style-type: none"> • Risk management analysis report and discussion within a maximum of 1 month after receipt of the information. • Risk mitigation and evaluation reports are made every 3 months.

		<ul style="list-style-type: none"> • Internal audit of risk control in each division once a year.
Long-term (>5 Years)	Carry out continuous improvements in risk management.	<ul style="list-style-type: none"> • Availability of risk information for companies as an effort to prevent risks and reduce their impact. • Maturity in implementing risk management in the company.

PT GMTI Risk Management Goals and Objectives

b. Risk Management Principles



Figure 2. Principles of Risk Management
(Source: ISO 31000:2018)

Table 2. PT GMTI Risk Management Targets

Principle	Information
Integrated	Risk management activities are an inseparable part of PT GMTI's culture and business processes such as decision making and strategic planning.
Structured and Comprehensive	PT GMTI's risk management activities are systematic, structured, comprehensive and timely so that a clear and coordinated framework is formed.

Can Customize	Risk management activities can be adjusted to PT GMTI's business conditions
Inclusive	Risk management activities involve all parts of PT GMTI.
Dynamic	Risk management activities always pay attention to, feel and be responsive to any changes that occur .
Information	Risk management always uses all information and data available from PT GMTI.
Man and Culture	Understand the capabilities and culture applied to support PT GMTI's goals.
Continuous Improvement	PT GMTI's risk management activities are carried out on a long-term and sustainable basis as an effective strategy in an effort to avoid risks.
Building and Protecting Company Value	Risk management activities can build and protect the value of PT GMTI.

c. PT GMTI Risk Management Framework



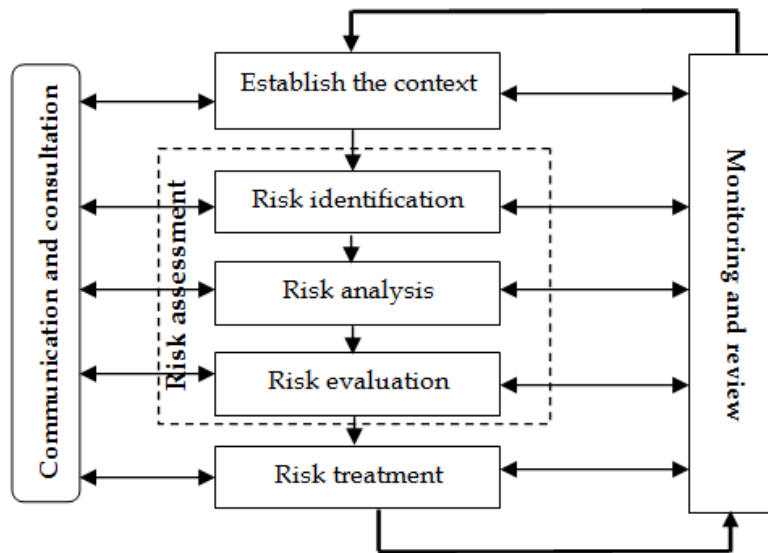
Figure 3. Risk Management Framework

(Source: ISO 31000:2018)

1. Leadership and commitment are the main factors for successful risk management. Company leaders must be committed to risk management by implementing it into a company culture that is tailored to PT GMTI's objectives.
2. Integration in risk management must be fully related to PT GMTI's processes and decisions. This includes strategic planning, decision making, and operational processes. Risk must be considered in every aspect of the company.

3. Design is the stage at which PT GMTI designs a management framework which includes developing policies, a structure of responsibility, and designing procedures and methods to manage risks.
4. Implementation is the stage at which PT GMTI carries out the risk management process by taking action to avoid and reduce risks involving all parts of the company.
5. Evaluation is a periodic assessment process of the effectiveness of risk management that has been implemented by PT GMTI such as monitoring, measurement and inspection. The evaluation results are used to make risk management strategy decisions.
6. Continuous improvement in risk management is PT GMTI's step to improve risk management processes and strategies over time.

d. Risk Management Process



e. Scope, Context And Criteria

The scope of implementation is based on the company's business targets in business management. Scope refers to the focus of risk analysis because it will influence the extent to which risks will be identified and assessed towards achieving PT GMTI's goals and objectives.

RESULTS AND DISCUSSION

RISK IDENTIFICATION

Code	Risk Events (<i>Risk Event</i>)	Causes of Risk (<i>Risk Agent</i>)	Qualitative Impact
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Internal Risk			
Marketing			
R1	PT GMTI is not yet widely known	PT GMTI is a new company	1. Sales targets are not achieved 2. Carry out brand awareness
R2	The emergence of similar competitors	Competitor opportunities in the abrasion resistant steel material business	1. There are so many choices that consumers are divided 2. Comparison of sales value
R3	Miscommunication	Incompatibility during the sales process to customers	1. Delays in the production process
R4	Sales target not achieved	Marketing tools are not optimal	1. Company income decreases
Operational			
R5	Machine failure	Irregular maintenance, misuse	1. Production activities have stopped 2. Greater repair costs
R6	Delay in product distribution	Delay in raw material supply from maker Take time (not in accordance with the specified time) inappropriate production	1. Pay penalty fees to customers 2. Production costs increase
R7	The product results are not appropriate or <i>the product is defective</i>	An error occurred during the production process	1. Production time increases 2. Delays in fulfilling customer orders 3. Production costs increase
R8	Work accident	Employee negligence in operating tools or machines that do not comply with SOPs and ignore K3	1. The production process is hampered 2. Reduced production operators
Human Capital			
R9	Limited use of technology	Inability of human resources to adapt to technological advances	1. The competencies possessed are not able to compete
R10	High employee turnover	Dissatisfaction with management policies	1. Declining productivity figures 2. Financial losses for the company

R11	Incompatibility of employee administrative data	Failure to fulfill employee rights and obligations	1. Trust in the company decreases
Financial			
R12	cash flow target was not achieved	The company is unable to achieve the specified targets	1. Companies find it difficult to develop their business
R13	Pay back period not reached	The company's profit target was not achieved	1. The company sells its assets 2. Confiscation of capital collateral
External Risks			
R14	Raw materials are not available	The supply of raw materials is experiencing delays from abroad	1. Production is hampered 2. Customer demand for raw materials is not met 3. Availability of raw materials is reduced
R15	Inflation	Raw material prices have increased	1. Profits decrease
R16	Limited raw material orders	Restrictions on raw material import quotas	1. Available raw materials are not met 2. Costs and ordering time increase
R17	Production waste	Poor waste management from production activities	1. Damage and pollution of the environmental ecosystem around the company
R18	Website down	Hackers and domain maintenance	1. The website cannot be accessed 2. Progress tracking is disrupted

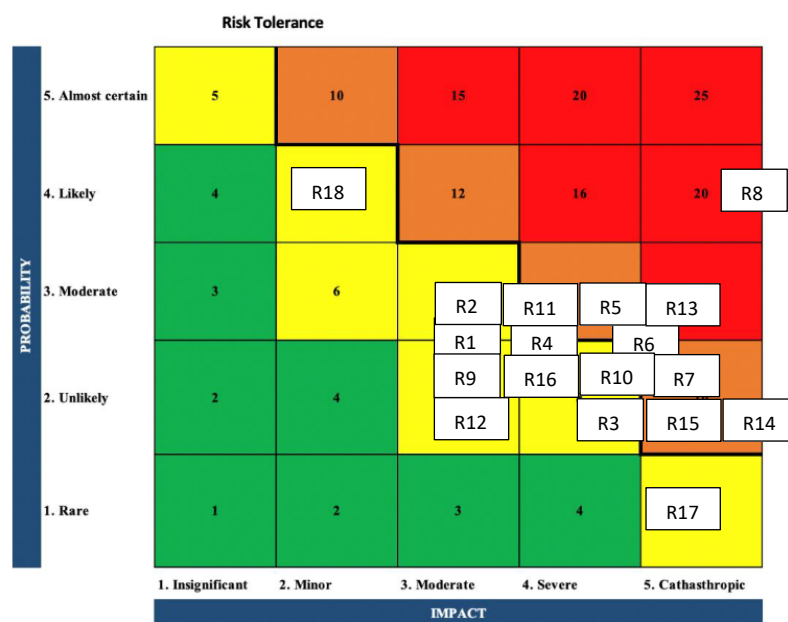
RISK ANALYSIS

No	Risk Events (Risk Event)	Inherent Risk		
		Probability	Impact	RPN
Internal Risk				
Marketing				
R1	PT GMTI is not yet widely known	3	3	9
R2	The emergence of similar competitors	3	3	9
R3	Miscommunication	2	4	8

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R4	Sales target not achieved	3	3	9
Operational				
R5	Machine failure	3	4	12
R 6	Delay in product distribution	3	4	12
R7	The product results are not appropriate or <i>the product is defective</i>	3	4	12
R8	Work accident	4	5	20
Human Capital				
R9	Limited use of technology	3	3	9
R10	High employee turnover	3	4	12
R11	Incompatibility of employee administrative data	3	3	9
Financial				
R12	cash flow target was not achieved	2	3	6
R13	Pay back period not reached	3	4	12
External Risks				
R14	Raw materials are not available	2	5	10
R15	Inflation	2	4	8
R16	Limited raw material orders	3	3	9
R17	Production waste	2	4	8
R18	Website down	4	2	8

RISK EVALUATION



RISK TREATMENT

Code	Risk (Risk Event)	Risk Treatment	
		Mitigation	P.I.C
Internal Risk			
Marketing			
R1	PT GMTI is not yet widely known	Carrying out marketing activities such as canvassing, seminars, events and social media	Marketing Manager
R2	The emergence of similar competitors	1. Improve service to customers 2. Providing offers or member loyalty	Marketing Manager
R3	Miscommunication in sales	1. Marketing staff training regarding products and services 2. Integration of marketing and production divisions 3. Customer response	Marketing Manager Production Manager (Operations)
R4	Sales target not achieved	1. Product mastery 2. Evaluate marketing tools 3. Cooperation and communication with customers	Marketing Manager
Operational			
R5	Machine failure	1. Carry out regular maintenance as a form of prevention. 2. The maintenance schedule must be accurate every 6 months. 3. There are no accidents when carrying out machine maintenance and repairs	Marketing Manager Production Manager (Operations)
R6	Delay in product distribution	1. Lead time from order received to customer is on target.	Marketing Manager Production Manager (Operations)

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		2. Timely production process	
R7	The product results are not appropriate or <i>the product is defective</i>	<ol style="list-style-type: none"> 1. Determine quality standards 2. Ensure <i>Quality Control</i> runs well 3. Analyze the causes of <i>product defects</i> 	Production Manager (Operations)
R8	Work accident	<ol style="list-style-type: none"> 1. Eliminate unsafe conditions and unsafe actions. 2. Regular K3 outreach or training at least once a month. 3. Use PPE correctly according to standards. 	Production Manager (Operations)
Human Capital			
R9	Limited use of technology	<ol style="list-style-type: none"> 1. Training realization of at least 75% according to the training plan with a measurement period every year. 2. Evaluation of training every 1 year. 	Human Capital Manager Production Manager (Operations)
R10	High employee turnover	<ol style="list-style-type: none"> 1. Improve employee welfare 2. Supportive environment for employees 3. Provide employees with opportunities to develop their careers. 	Human Capital Manager
R11	Incompatibility of employee administrative data	1. Ensure that the employee data input process (salary, health facilities, allowances, leave rights) must be 100% complete with a measurement period of once a year	Human Capital Manager
Financial			
R1 2	cash flow target was not achieved	1. Prepare a good company financial plan	Financial Manager

		2. 100% completeness of payment documents with a measurement period every year	
R13	Pay back period not reached	1. Ensure that the company's funds can meet loan obligations	Financial Manager
External Risks			
R14	Raw materials are not available	1. Supplier diversification 2. Make better needs planning (Inventory Planning) 3. Ensure stock reserves are met	Production Manager (Operations) Financial Manager
R15	Inflation	1. Negotiation of long-term contracts with suppliers 2. Increased production efficiency 3. Product price adjustments	Financial Manager Production Manager (Operations)
R16	Limited raw material orders	1. Proper inventory management 2. Collaboration and exploration with the steel industry and local suppliers	Production Manager (Operations)
R17	Production waste	1. Implementation of the 5R concept (Reduce, Reuse, Recycle, Recovery and Repair) 2. Ensure that all waste produced is managed and handled properly in accordance with applicable regulations.	Production Manager (Operations) Human Capital Manager
R18	Server and website down	1. Data Back Up & Disaster Recovery System process to ensure possible data damage to the server computer, 100% QAD System Data Backup is carried out according to schedule	Production Manager (Operations)

2. Realization of computer maintenance 100% according to schedule.
3. Reporting every 1 month.

RESIDUAL RISKS

No	Risk Events (Risk Event)	Residual Risk		
		Probability	Impact	RPN
Internal Risk				
Marketing				
R1	PT GMTI is not yet widely known	2	3	6
R2	The emergence of similar competitors	3	2	6
R3	Miscommunication	2	3	6
R4	Sales target not achieved	2	3	6
Operational				
R5	Machine failure	2	3	6
R6	Delay in product distribution	2	4	8
R7	The product results are not appropriate or <i>the product is defective</i>	3	3	9
R8	Work accident	2	1	2
Human Capital				
R9	Limited use of technology	2	2	4
R10	High employee turnover	3	3	9
R11	Incompatibility of employee administrative data	2	1	2
Financial				
R12	cash flow target was not achieved	2	2	4
R13	Pay back period not reached	2	3	6
External Risks				
R14	Raw materials are not available	2	4	8
R15	Inflation	2	3	6
R16	Limited raw material orders	3	2	6
R17	Production waste	2	2	4
R18	Website down	3	2	6

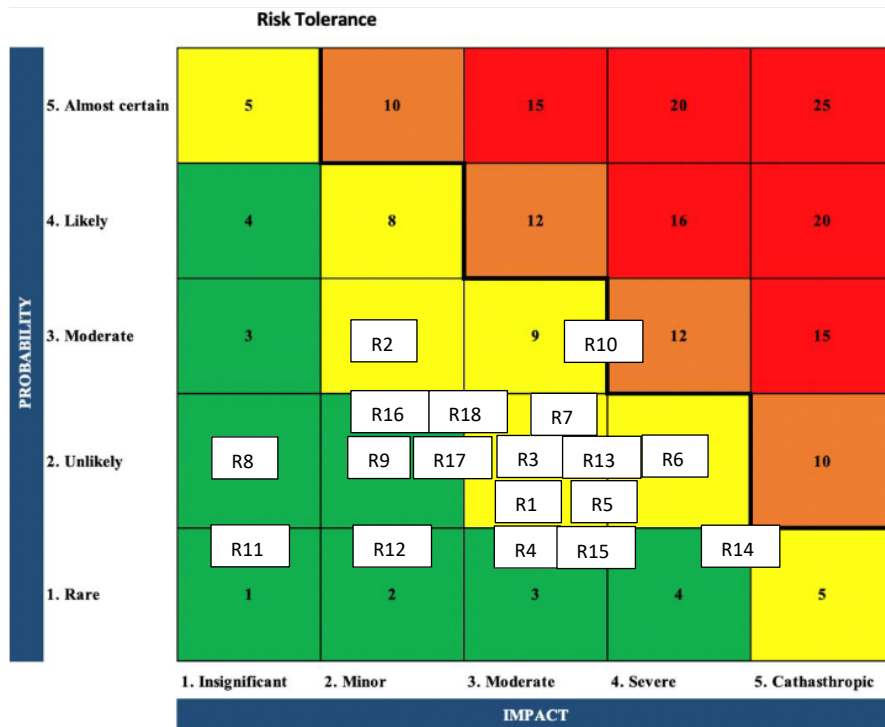


Figure 3. Residual Risk Map
(Source: Writing Team, 2023)

CONCLUSIONS

Based on the results of research carried out using the ISO 31000:2018 method, it focuses on risk management. There are 18 risks that occur at PT. GMTI. There is 1 risk at an extreme level, 5 at a high level, and 12 at a moderate level. By carrying out analysis based on ISO 31000:2018 it is hoped that PT. GMTI can reduce potential risks that will occur. With these results, the application of risk management will continue to be developed. However, the causes and prevention of some risks have been sufficiently resolved.

Risk measurement is carried out by identifying and analyzing based on the possibility and impact of risks. Risk levels are grouped into 4 levels, namely low, medium, high and extreme. It can be concluded based on PT's risk measurements. GMTI can continue to follow up on implementation and improve risk management in order to reduce company risks and losses.

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