



## Risk Management Strategy Implementation for Business Plan at Imported Beef Supply Startup

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### Abstract

*This study is concerned with how to develop and carry out a risk management strategy at PT Meat Tech, a startup in the imported beef business. Following the ISO 31000:2018 standard, the research uses a qualitative-descriptive strategy to spot, review, assess and tackle risks within the organization. The research finds that PT Meat Tech deals with significant weaknesses in operations, human assets and finances. A risk assessment matrix helped the company score and prioritize threats which led to the planning of targeted solutions, division of tasks and checking risk levels after these measures were carried out. The research points out that structured plans improve alignment and accountability, but note they do not always work as intended when faced with resource issues. According to the study, although PT Meat Tech grasps the concepts of risk governance well, the sustainability is linked to always adapting, making investments and introducing real-time monitoring. Using these lessons, SMEs specializing in high-risk, logistics-based operations can create and strengthen their systems for handling risks.*

## Introduction

Competition and risks in the import sector of the meat industry are growing because of globalization, weaknesses in the supply chain, rules from regulators and varying customer preferences. PT. Meat Tech, as a PT, takes part in B2B activities to provide imported beef for middle-class HORECA (Hotel, Restaurant, Catering) customers residing in Jakarta, Bogor, Depok, Tangerang and Bekasi. The company mainly focuses on making different products and highlighting their characteristics, to meet the particular quality, packaging and service requirements of both the hospitality and foodservice sectors (Kladou et al., 2024; Yong et al., 2024; Pamić et al., 2025).

In the meat industry which is highly perishable and regulated, simple product differentiation is not enough. Good operations, following rules and making the right use of employees ensure a company performs better in the long run. It highlights how important it is for companies to develop and apply both hidden and open knowledge within the company (Donate et al., 2022; Corrales-Garay et al., 2022; Chatterjee et al., 2021). According to Erni et al. (2021), professionals benefit from having both deep and experience-based insights (tacit knowledge) and established procedures and documentation (explicit knowledge), as it allows the organization to change and remain consistent internally.

People working in human resources are crucial for making the dual knowledge system effective. For PT. Because people want unique meat items, Meat Tech needs employees who can manage non-standard jobs, notice individual quality points and deal rapidly with changes in the market. There, human resource management cannot be viewed only as auxiliary—it becomes a key part of strategy (Majumder & Mondal, 2021; Budhwaret al., 2023). Putting an

emphasis on learning from experience and constant learning echoes Nonaka and Takeuchi's (1995) view which states that sustainable innovation happens when there is interaction between tacit and explicit knowledge.

On top of its internal abilities, the company works in a setting full of unpredictable risks. Logistical problems, changes in world trade rules, food safety concerns and foreign exchange fluctuations are all examples of risks found in importing beef. Since these risks are complex and connect to many other areas, firms must handle them with a formal and structured strategy for governance (Perifanis & Kitsios, 2023; Brown et al., 2009; Williamson, 2002). It creates a structure where the aim is to ensure stable and accepted risk practices, defines risk as “unclear effects on objectives,” and highlights the principles of integration, structure, flexibility and acceptance within governance (ISO 31000, 2018).

Many research studies prove that having a structured approach to risk management benefits volatile industries. According to Aven (2016), risk management in the modern world should include approaches besides probability and stress the importance of learning and strengthening an organization's resilience. It is particularly important in food logistics, because any issue such as a temperature error, problem with customs or poor supplier work, may cause a company to lose both reputation and money. Also, Bela et al. (2023) mention that companies that use integrated risk management systems following ISO standards enjoy continuity in operations, increased trust from stakeholders and better decision-making.

PT. Relying on ISO 31000:2018 is needed not only for compliance, but for their overall strategy. The company integrates awareness of risks into all areas of operation, finances and staff management to encourage a culture that is quick to respond and plan ahead. According to Vilianni & Kustiawan's (2023) research, better risk management in mining service firms is linked to clearer strategy and effective use of resources. Besides, for industries where public health plays a major role such as meat, risk management also connects with workplace safety and health, a point made by Erni & Syahputra Wijaya (2017) in their study of safety at work in manufacturing plants.

Because of how things like currency valuations, distributor prices and policies can change in the world beef industry, companies must carefully prepare and put in place strategies to deal with different situations. According to Kaplan and Mikes (2012), companies need to tell apart preventable risks, strategy risks and external risks to manage resources well. For PT. Classifying, quantifying and ranking these risk categories will be essential to reach immediate goals and build long-term success.

## **Methods**

Because it is tailored to explore hard-to-define topics, a qualitative design was chosen for this investigation on how risk management strategies are carried out in an emerging business arena. Qualitative studies give researchers a chance to research and explain aspects of organizations that numbers alone may overlook (Creswell & Poth, 2018). Extensive research in the area is focused on PT. Meat Tech, active in the imported beef industry, deals with risks of many kinds, including logistics, compliance, finances and operations.

## **Research Design and Rationale**

The inquiry here is qualitative and is carried out in an exploratory and descriptive form. Meat Tech identifies, organizes and handles risk management processes. The objective here is to identify main weaknesses and use risk response approaches that are related to the organization's key strategies. Because the industry is always developing, the method allows

the study to find emerging themes, environmental factors and responses from companies in real situations.

### ***Collecting Data***

The data were obtained by using direct observation and studying documents. At the beginning, fieldwork was done to check the company's internal procedures by observing the supply chain, standard operating procedures, workplace safety practices and how different departments collaborate. As a result of joining meetings, this study revealed aspects of informal choices, culture related to risk and compliance that typically stay hidden in reports.

Second, document research was done to back up and confirm what was seen in the observations. The documents that were reviewed were company SOPs, internal risk assessments, guidelines for operation, financial summaries and employee development plans. Moreover, scientific papers, industry guidelines such as ISO 31000:2018 (two thousand eighteen edition) and white papers, in addition to previous academic studies were carefully explored to strengthen the conceptual base.

### ***Analytical Framework***

The analysis relied on the ISO 31000:2018 Risk Management Framework which is recognized globally for giving guidance and proper steps for effective administration of risks. I decided to build the framework around this framework because it takes a holistic and thorough approach and covers leadership commitment, searching for risks, their impact evaluation, strategies for dealing with them and ways to improve over time (ISO 31000, 2018). By coordinating the main strategies, PT. This part of the study reviews how Meat Tech follows ISO rules and looks at what both helps and hinders the company's current risk handling.

In several areas such as operations, finances, human capital and external factors, risks were identified and categorized (for example, breakdowns in supply lines, problems with efficiency on the production side, difficulties finding workers or updated regulations and rivalry in the marketplace). Every identified risk was looked at using a matrix that included both likelihood and impact to find the amount of exposure.

### ***Looking at Data and Assigning Topics***

All the qualitative data gathered were analyzed using thematic analysis to group similar risk issues and find out which issues recurred. Themes were created from the analysis but were still aligned with the main components of ISO 31000. As an illustration, frequent concerns about disrupted supply and unpredictable pricing were attributed to the area of operational risk. In the same way, studies looked at how workforce development gaps affect human resource issues.

To confirm the right interpretation, the researchers talked to line supervisors, administrative staff and middle managers at the company during their visits. Lacking any formal planning, these talks offered insights into deciding on possible risks, allowing the sharing and checking of observational findings. Because of this combination of styles, the findings of the study were more credible and fit better into the social context (Sovacool et al., 1985).

### **Result and Discussion**

In carrying out its operations, every organization must face various factors that can influence the achievement of goals. These factors can originate both from within the organization itself and from the external environment. These factors create a level of uncertainty referred to as

risk. To deal with these risks, organizations need to manage them in a logical, systematic, structured and well-documented manner.



Figure 1. Framework Manajemen Risiko PT Meat Tech

Figure 1 illustrates PT Meat Tech’s risk management framework which is presumably based on ISO 31000:2018. The structure highlights how all the main activities, planning, implementation and monitoring, are connected for strong risk governance.

Is at the heart of the framework tradition where a commitment to leadership mirrors the first principle in ISO 31000 which requires top-down risk management. If the executive team does not support risk initiatives, these become less serious and more visible (Fraser, 2010). It seems that PT Meat Tech’s structure accepts that not only should leaders accept risk management but also provide resources, explain its relevance and make sure it is connected to the organization’s strategy.

It is especially valuable in startups because the organization is flat and things move quickly. Strong governance means leaders should model good behaviors, consider potential risks and model openness. Around leadership are repeated elements: integration, design, implementation, evaluation and continual improvement. This means the team is committed to learning from every experience, a trait shared by resilient organizations (Rantakangas, 2025). PT Meat Tech treats risk management like a process that changes over time, not simply as something to check during compliance.

It is very important that the model encourages integration. It states that every part of a company should involve some risk management, like in procurement, logistics and HR and finance. Still, to be integrated, a company must speak a similar language among all teams, coordinate functions and use reports and frameworks such as risk registers and control matrices.

The detailed organization of the framework indicates that PT Meat Tech follows standards accepted by international bodies which suggests it seeks strong governance. Startups face difficulties when it comes to using such frameworks because they do not have enough resources, enough experience with the process or focus on many other tasks (Giardino et al., 2014). Without the use of automation tools, risk officers and training modules right from the start, this framework may stay unimplemented. Also, the framework does not clearly explain how to track or react to external risks such as changes in world politics, pandemics or effects

from climate change. Including feedback loops for external scanning or crisis management protocols would enhance its realism and strategic relevance.

### Risk Goals and Objectives

The main objective of risk management at PT Meat Tech is to achieve organizational goals by identifying, evaluating and managing risks that may be faced. The company strives to protect its assets, reduce the possibility of loss or operational disruption, and improve the quality of business decisions and stakeholder trust. In an effort to achieve short, medium- and long-term goals, PT Meat Tech has risk targets that are integrated into its operational plans, namely QSPM, namely Product Development and Differentiation in Porter's Generic Strategy. This goal aims to identify, measure and manage risks covering operational, financial, reputation and environmental aspects. Concrete steps will be taken to reduce negative impacts and exploit opportunities associated with these risks. Focusing on effective risk management allows PT Meat Tech to ensure sustainable business continuity and be able to overcome future challenges. An overview of PT Meat Tech's risk management objectives and how they relate to achieving organizational objectives is presented in the table below.

Table 1. Risk Management Goals and Objectives of PT Meat Tech

Objective	Target
<b>Short Term (1 Year)</b>	
Form a special team to create Standard Operating Procedures (SOP) for production activities in the first 3 months.	Forming a cross-departmental team tasked with identifying, analyzing and mitigating operational risks.
Identify and organize risks that have the main potential and affect company operations.	Conduct a thorough risk assessment within 12 months and implement the necessary mitigation measures with a target of reducing environmental risks by 20%.
Increase employee competency, innovation and development at least 1 session a year.	Organizing employee training and development in the form of workshops, seminars or skills training related to the beef distribution industry. Ensure every employee is involved in at least 1 development session every year to improve competency, update knowledge and stimulate innovation within the company.
Conduct internal audits of standard operating procedures (SOP) for production activities every 1 year	Conduct internal audits of production activities to ensure everything runs according to SOP every 1 year.
Carry out annual evaluations of previously prepared risks and update them according to existing operational conditions.	Conduct risk monitoring into the company's operational systems within 1 year, with a target of increasing risk detection by 50%.
Increasing competency, innovation, and ensuring employees receive training and development at least twice a year.	Plan and implement comprehensive training and development programs to improve employee competency. Increase the number of employees who receive training and development at least twice a year. to strengthen the company's HR team and stimulate innovation within the organization.
Carry out internal audit compliance with	Consistently implement SOPs for production

standard operating procedures (SOP) for production activities every 6 months	activities and increase compliance with established procedures, including K3, Zero Accident, and machine maintenance. Conduct internal audits every 6 months to ensure
Develop a policy that requires risk analysis on every major business proposal before approval, with a target of 100% of major business proposals going through risk analysis within 12 months.	Increasing the company's ability to face and overcome external risks. Building a culture of risk awareness and ensuring compliance with risk regulations with a target of 100% compliance.
Improve ability in risk evaluation which is carried out every 3 months.	Develop the ability to evaluate economic risks that can affect company performance. Carry out the latest analysis and monitoring of factors that influence economic conditions. Develop effective economic risk management strategies to deal with changes in distributors, government policies and economic fluctuations. Optimizing opportunities and minimizing negative impacts on the company's financial performance.

Table 1 details the outlined risk management goals that PT Meat Tech has for short-term (1 year), medium-term (2–3 years) and long-term (more than 4 years) periods. A company following this method is making it clear it intends to include risk awareness in both its short-term and long-term plans, working to control risk in a proactive way.

At the beginning, the focus is on building up the risk governance system. Making a cross-departmental risk team, setting up standard operating procedures (SOPs) and assessing all risks try to make basic risk management practices part of the company's system. Since startups usually have no formal systems, these goals become crucial for their daily operation (Davila et al., 2010). Goals for staff training (e.g., every year) show that managers realize both the potential risks and the benefits of having a skilled workforce in the importing of beef. Yet, in order to improve, the objectives should be accompanied by clearly defined performance indicators. Determining what abilities ought to be grown and outlining a particular process for measuring risk reduction, enhances accountability and makes monitoring easier.

The focus of medium-term goals is now on making the project official and regularizing its operations. By conducting SOP audits each year and correcting any previous risks, organizations prove their ongoing effort to regularly review risks according to ISO 31000's focus on continual progress (ISO 31000, 2018). Adding risk oversight to everyday operations means the system is less likely to miss a risk and more able to handle challenges. Being aware that managing risks requires change in approach and attitude, the company holds regular development sessions for employees. Repeating training activities shows startups are moving from simply doing as they are told to building the necessary abilities which is particularly important for those expanding in uncertain markets.

Even so, the framework views progress as a line purely forward which might be misplaced in the meat import industry, where sudden external changes (for example, in rules, pandemics, supply issues) call for prompt structure changes. Adding scenario planning into their planning would help to strengthen their medium-term forecast.

Over time, the firm strives to establish a culture where everyone is responsible for risks and risk management is part of every strategic choice. Risk analysis must be done for all major business proposals before they are approved which highlights effective ERM and full integration of risk into governance policies (Fraser, 2010). Routine internal audits and the use of predictive economic risk evaluation make sure the company is aware of and ready to respond to changes in the economy, especially because the sector relies on exchange rates and trade restrictions (Aven, 2016). We should especially emphasize the desire to meet “100% compliance” and foster a “risk awareness culture.” Still, these intentions are hard to interpret or define clearly. Organizational culture is hard to gauge and alter. It would be good to add tangible practices, like dashboards for risk factors, in-house communications about risk and connection between worker performance reviews and actions related to risks.

### **Risk Management Principles**



*Figure 2. Management Principles Applied by PT Meat Tech*

(ISO 31000, 2018) there are 8 management principles. The eight principles are: (1) integrated, (2) structured and comprehensive, (3) adapted, (4) inclusive, (5) dynamic, (6) best available information, (7) human and cultural factors, and (8) continuous improvement. PT Meat Tech will apply the eight risk management principles as stated in Figure 2.

### **Risk Management Framework**

Every company/organization needs to establish a risk management framework as a basis for implementing risk management activities. The risk management framework will help companies manage risks more effectively which can be used as a reference in preparing strategic planning, decision making and risk control.



Figure 3. PT Meat Tech Risk Management Framework

The framework is one of the main elements of risk management in ISO (ISO 31000, 2018). The risk management framework aims to help companies or organizations integrate risk management into all organizational functions and activities. A risk management framework is defined as a set of components that provide a regulatory basis or foundation for designing, implementing, evaluating and carrying out improvements in an integrated manner on the basis of strong leadership and commitment. In (ISO 31000, 2018) the risk management framework consists of leadership and commitment as the center or basis, then supported by a cycle of integration, design, implementation, evaluation and improvement. PT Meat Tech will apply the six frameworks as outlined in Figure 3 above.

### Risk Management Process

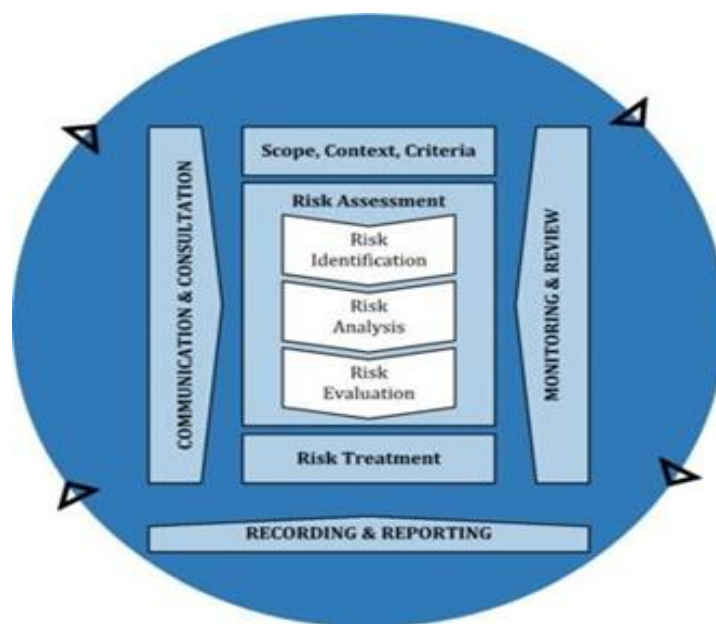


Figure 4. PT Meat Tech Risk Management Process

The risk management process is a continuous, systematic, logical and measurable process used to manage risk. The risk management process includes implementing policies, procedures and practices to carry out context determination, risk identification, risk analysis, risk evaluation, risk handling, monitoring and review, as well as communication and consultation. The Risk Management process that will be implemented by PT Meat Tech is in Figure 4.

ISO 31000:2018 has been applied to Figure 4 which illustrates the full process of risk management followed by PT Meat Tech. The diagram shows how the process begins with figuring out where and how the company functions. The first part is very important, since it sets boundaries on how risks will relate to the company’s unique setup (such as teams and partners) and to outside situations (such as rules and market unpredictability). Giving the context is necessary to ensure the risk management process is suitable and on point for PT Meat Tech’s sector which faces many sensitive operations and strict rules.

The process then shifts to risk identification, analysis and evaluation which are the main parts of analysis. During risk identification, all kinds of uncertainty sources such as those that involve operations, finances or factors outside the company, are searched for. Risk analysis works to determine how likely and damaging each threat is which is then used to organize the risks. In the end, risk evaluation occurs and the organization singles out which dangers are over the limits and should be handled. For PT Meat Tech, these steps help a lot since they work with limited resources that force them to make smart choices.

When the evaluation is finished, the next step is to choose and apply strategies for reducing risks. SOP implementation, diversifying suppliers or employee training are actions chosen by the company according to the risk analysis and score. The company reviews and checks the effectiveness of their strategies throughout, so they can alter them if necessary. At every stage, communication and discussion are used, proving that risk management is something everyone in the organization shares, not just a job for one group. To sum up, Figure 4 demonstrates an ongoing cycle that, when applied the same way, favors both handling risks in advance and supporting the organization’s overall learning.

Table 2. Possibility and Impact Values

Event Frequency			Impact Severity	
Value	Description	Frequency (per year)	Value	Description
1	Rare	< 2	1	Insignificant
2	Unlikely	2 - 5	2	Minor
3	Possible	6 - 12	3	Moderate
4	Likely	1 - 7 per month (12-84 per year)	4	Major
5	Certain	7 - 12 per month (84-144 per year)	5	Catastrophic

The table lists both the qualitative and quantitative measures that help estimate two main aspects of risk: how often an event might happen and its seriousness. The ranking for frequency on the scale goes from "Rare" to "Certain" depending on the likelihood of an event in a year. A "Rare" event will generally happen once in every 24 months or less, but a "Certain" event may occur as often as 144 per year. It is important to have this scale to tell apart risks that come up only now and then such as different regulations, from those that keep coming back such as equipment or quality problems.

The impact scale gives similarly a range from “Insignificant” to “Catastrophic” to define different kinds of risks. They give a broad idea of how much of a disruption an event may lead to. An example of an “Insignificant” impact is minor hold-ups or some extra costs, but an

“Catastrophic” impact could challenge the business to stay open or cause its good name to suffer. Both dimensions are combined to provide the main basis for scoring risks in other tables. But accurate application of this table requires the organization to interpret the scales the same way every time. If individuals assess symptoms differently, their judgments might not be reliable which is why cross-functional calibration is important. PT Meat Tech, as a startup, should be especially cautious about not considering heavy, occasional events (such as food safety problems).

Table 3. Risk Analysis Matrix Criteria

Risk Analysis Matrix		Impact				
		<i>Insignificant</i>	<i>Minor</i>	<i>Moderate</i>	<i>Major</i>	<i>Catastrophic</i>
		(1)	(2)	(3)	(4)	(5)
Possibility	<i>Certain</i>	5	10	15	20	25
	(5)					
	<i>Likely</i>	4	8	12	16	20
	(4)					
	<i>Possible</i>	3	6	9	12	15
	(3)					
	<i>Unlikely</i>	2	4	6	8	10
	(2)					
<i>Rare</i>	1	2	3	4	5	
(1)						

This table (Table 3) uses the levels from Table 2 to sort risks into five categories of severity and frequency. Each point in the matrix assigns a score ranging from 1 (low risk) to 25 (high risk). With the matrix, the company is able to quickly identify the main risks that should be treated right away. A risk rated 20 or 25 (high chance and huge impact), be it financial, organizational or natural, is placed in the red zone, indicating urgent action and top-level handling.

Its strength is in helping everyone, including managers, make sense of detailed information without having to learn statistics. Besides, it promotes similarity in how risks are viewed among various departments. Still, the main issue is that the matrix cannot show how various risks are connected. Two separate risks that prove to be not severe may become very serious when combined. For this reason, PT Meat Tech should add more scenario-based or sensitivity analyses to the matrix. Even so, ERM helps the organization by focusing on identifying and addressing potential threats.

Table 4. Criteria for Level and Magnitude of Risk

Risk Level	Risk Score	Color
Very High	16 - 25	Red
High	14 - 15	Orange
Medium	8 - 13	Yellow
Low	4 - 7	Green
Very Low	1 - 3	Blue

Qualitative labels and color codes are provided for the numbers in the risk matrix in Table 3 (Table 4). Instead of using numbers, the categories Very Low (Blue), Low (Green), Medium (Yellow), High (Orange) and Very High (Red) make the technical risk scores easier to

understand. In this example, a risk worth 16–25 receives the label “Very High” in red which is the color for urgent attention, since the company has decided it exceeds what is acceptable. On the other hand, moderate risks falling between 1 and 3 (blue bars) are considered to have little impact and do not require frequent attention.

This approach works very well with visual dashboards, board reports and making decisions in real time. It allows communication within multiple departments to become simpler and uses the same risk language. On the other hand, it runs the danger of overlooking nuances. Grouping various scores (like both 16 and 25 under Very High) can hide real differences in importance or size. Therefore, PT Meat Tech should create subcategories or labels within the color bands to improve the way priorities are set. Risk velocity indicators could be applied alongside this framework to give extra insight on when a risk might occur.

### Risk Identification

Based on the framework in the image above, PT Meat Tech has identified risks and determined the impact of the risks that occur which are contained in the following table.

Table 5. PT Meat Tech Risk Identification

Risk Code	Risk Category	Impact	Weakness/ Threat
<b>Internal Risks</b>			
<b>Marketing Risks</b>			
R001	Ineffective marketing and promotion	Strategy	Decreased consumer awareness and low sales
R002	Pricing errors	Decreased profit margin and reduced competitiveness	
R003	Inharmonious external communication and relationships	Can affect business operations and reputation	W2
<b>Operational Risks</b>			
R004	Supply chain disruptions for raw materials and packaging	Decreased production and stock shortages	
R005	Inability to meet product quality standards	Decreased consumer trust and risk of reputational damage	
R006	Limited production capacity		
R007	Dependence on specific types of meat	Can affect the availability and quality of raw materials	W3
R008	Imbalance between demand and production capacity	Risk of overstock or out-of-stock, disrupting business performance	
R009	Failure to improve raw material quality and genetic engineering	Can affect the quality of the final product	W4
<b>Human Capital Risks</b>			
R010	Limited employee skills and competencies	Decreased productivity and risk of inability to meet challenges	W2
R011	High employee turnover rate	Employee replacement costs and decreased operational continuity	
R012	Lack of employee development and retention programs	Risk of losing talent and lack of relevant skills	W2

R013	Shortage of qualified human resources	Can affect innovation and business growth	W2
R014	Work accidents and employee injuries	Can lead to decreased productivity, increased medical costs, and potential lawsuits	
<b>Financial Risks</b>			
R015	High capital requirements	Liquidity risk, dependence on loans, limited opportunities, and financial risk	W1
R016	Inefficient cash and cash flow management	Liquidity risk, delayed payments, and inability to meet obligations	
<b>External Risks</b>			
<b>Political Risks</b>			
R017	Changes in government regulations and policies	Increased costs and risk of non-compliance with regulations, such as increased wages and changes in tax rates	T1, T2
R018	Uncertainty in operational licensing and permits	Risk of delays or cessation of operations, as well as legal conflicts	T1
R019	Changes in taxes and fiscal policies	Increased tax burden and risk of decreased profitability	T3
R020	Changes in international trade policies	Risk of increased export/import costs and disruptions in the supply chain	
<b>Economic Risks</b>			
R021	Unstable exchange rates	Decreased profitability and risk of losses in foreign exchange transactions	T4
R022	Changes in raw material prices and distributor price fluctuations	Increased production costs and risk of declining profit margins	
R023	Decreasing purchasing power due to declining per capita GDP and inflation	Decreased product sales and company profitability, which can affect long-term business growth	
R024	Intense competition with existing companies in the global distribution market	Small profitability, especially if the importing company does not yet have trust in the quality of the product	
<b>Social Risks</b>			
R025	Changes in consumer trends and preferences	Decreased demand for PT Meat Tech's meat products	
R026	Dependence on key customers	Risk of losing key customers, which can lead to decreased revenue	
R027	Bad or failed customer receivables	Reduced cash flow, increased bad debt losses, and financial instability	
R028	Customer dissatisfaction and unresolved complaints	Risk of losing customers and damage to the company's reputation	
R029	Dependence on main suppliers	Production disruptions, risk of stock shortages, delayed deliveries, and decreased customer satisfaction	T5

R030	Inability to obtain raw materials at adequate prices and quality	Risk of increased production costs and decreased product quality	
R031	Litigation and legal disputes	Risk of financial losses, reputational damage, and operational disruptions	
<b>Technological Risks</b>			
R032	Technological disruptions or information system failures	Operational disruptions, risk of data loss, and decreased efficiency	W5, T6
<b>Other Risks</b>			
R033	Environmental disturbances or natural disasters	Risk of infrastructure damage, decreased production, and risk of operational instability	T6
R034	Decreased meat quality	Production disruptions, risk of stock shortages, and decreased customer satisfaction	

Table 5 shows a clear breakdown of the internal and external risks that PT Meat Tech faces in numerous functional domains like marketing, operations, human capital, finance, politics, economics, social environment, technology and natural hazards. As the chart makes clear, the company tries to see all risks by understanding that internal weaknesses cause some problems and external fluctuations (such as regulations or market changes) add others to its risks.

The evident depth is found in the operational risks reported, going from issues in the supply chain to limits in capacity for production. In the case of perishable goods, operational delays can badly affect product quality, customer trust and may cause the brand to fail. In the same way, risks linked to people—like a high staff turnover rate and lack of competence in some areas—show a significant threat to a company that needs cold chain services to be reliable.

PT Meat Tech also recognizes risks that do not show up clearly, but can cause major problems such as damage to their reputation, unhappy customers, lawsuits and technological challenges. In these entries, risk is recognized as having effects on reputation, legal issues and the reliability of the entity. When risks are identified in detail, there is a solid base for effective evaluation and management. Since no filtering exists to determine how clearly risks are prioritized (e.g., if systemic issues are clustered), the table mainly serves to describe the organization's risks rather than analyze them. It would be helpful for following plans to use the labels strategic, operational and reputational with risks to clarify their role in governance.

### Risk Analysis

After knowing the impact of each risk, the next step is risk analysis. Risk analysis is carried out by providing a value for each risk that occurs. For each risk, an inherent risk assessment will be carried out in terms of the Likelihood Level (LK) of the risk occurring, the resulting Impact Level (LD), Risk Score (SR) and Risk Rating (PR).

Table 6. Assessment of Risk Probability and Impact

Risk Code	Risk Description	Inherent Risk	LK	LD	SR
<b>Internal Risks</b>					
<b>Marketing Risks</b>					
R001	Ineffective marketing and promotion strategy	1	4	4	33
R002	Pricing errors	2	3	6	30

R003	Inharmonious communication and external relationships	5	4	20	6
<b>Operational Risks</b>					
R004	Disruptions in the supply chain for raw materials and packaging	3	5	15	17
R005	Inability to meet product quality standards	2	3	6	31
R006	Limited production capacity	3	2	6	24
R007	Dependence on specific types of meat	5	4	20	3
R008	Imbalance between demand and production capacity	3	2	6	25
R009	Failure to improve raw material quality and genetic engineering	5	4	20	10
<b>Human Capital Risks</b>					
R010	Limited employee skills and competencies	5	4	20	4
R011	High employee turnover rate	3	3	9	22
R012	Lack of employee development and retention programs	5	4	20	11
R013	Shortage of qualified human resources	5	4	20	5
R014	Work accidents and employee injuries	2	4	8	28
<b>Financial Risks</b>					
R015	High capital requirements	5	5	25	1
R016	Inefficient cash and cash flow management	2	3	6	32
<b>External Risks</b>					
<b>Political Risks</b>					
R017	Changes in government regulations and policies	5	4	20	12
R018	Uncertainty in licensing and operational permits	5	4	20	13
R019	Changes in tax and fiscal policies	5	4	20	2
R020	Changes in international trade policies	3	4	12	19
<b>Economic Risks</b>					
R021	Unstable exchange rates	5	4	20	15
R022	Changes in raw material prices and distributor price fluctuations	1	3	3	34
R023	Decreased purchasing power due to declining GDP per capita and inflation	3	4	12	16
R024	Intense competition with existing companies in the global distribution market	3	4	12	14
<b>Social Risks</b>					
R025	Changes in consumer trends and preferences	3	3	9	23
R026	Dependence on key customers	3	4	12	20
R027	Bad or failed customer receivables	3	4	12	21
R028	Customer dissatisfaction and unresolved complaints	2	5	10	26
R029	Dependence on main suppliers	5	4	20	7
R030	Inability to obtain raw materials at adequate prices and quality	2	4	8	29
R031	Litigation and legal disputes	2	5	10	27
<b>Technological Risks</b>					

R032	Technological disruptions or information system failures	5	4	20	8
<b>Other Risks</b>					
R033	Environmental disturbances or natural disasters	5	4	20	9
R034	Decreased meat quality	3	5	15	18

The data in Table 6 is based on the findings from the risk identification table and adds a likelihood level (LK) and an impact level (LD) to each risk, before computing a risk score (SR). The scoring process is essential because it turns plain risk notes into effective intelligence, letting the business know which issues need urgent action.

The main thing to observe is that the company scored high across all three areas—internal, external and human capital. One example is when an enterprise has “high capital needs” which gets scored 25 and in another area, if 75% of their income is from processing specific types of meat, it’s scored 20, also considered very high. Also, managers tend to assign a high risk score to problems related to human capital (e.g., workers not growing, a deficit in specific skills) which is as expected for startups in industries that require logistics.

It is clear from this table that PT Meat Tech goes further than merely naming risks and also looks at them through numbers. However, to make the approach better, possibly assign weights to the elements and include new aspects such as how fast the risk occurs and whether it can be controlled by the organization. Because of this, helpful as they are, risk scores might fail to provide the strategic guidance that decision-makers need.

### Risk Evaluation

PT Meat Tech will carry out an assessment of the risks that have been previously identified and analyzed. Risk evaluation aims to gain a deeper understanding of the level of risk faced by the company and identify risks that require more prioritized handling actions. PT Meat Tech will use predetermined criteria and methods to measure the level of risk based on the impact and possibility of the risk occurring. One of the tools used in risk evaluation is a risk analysis matrix, which describes the relationship between the level of impact and the level of probability of risk occurring. By conducting a careful risk evaluation, PT Meat Tech can determine the level of risk that is acceptable or requires further treatment, as well as formulating appropriate risk management strategies to reduce the negative impact of the risks faced.

Table 7. Risk Evaluation Matrix

Risk Analysis Matrix		Impact				
		<i>Insignificant</i>	<i>Minor</i>	<i>Moderate</i>	<i>Major</i>	<i>Catastrophic</i>
		(1)	(2)	(3)	(4)	(5)
<b>Possibility</b>	<i>Certain</i>				R003,R007,R009,R010 ,R012,R013, R017,R018,R019,R02 ,R029,R032, R033	R015
	(5)					
	<i>Likely</i>					
	(4)					
	<i>Possible</i>		R006, R008	R011,R0 25	R020,R026, R027,R023,R024	R004,R034
	(3)					
	<i>Unlikely</i>			R002,R0		
	(2)					

	(2)			05, R016	R014,R030	R028,R031
	Rare					
	(1)			R022	R001	

The heatmap in Table 7 groups the different risks into levels depending on how likely and severe they are. This matrix allows leaders to get a quick overview of red-zone risks which need immediate intervention, yellow-zone threats which need focus and green- and blue-zone situations which might not be very risky.

Make sure to do this step so the company spends its resources wisely on the most important threats. For example, risks like R003, R007 and R032 (all shown as red dots) show that PT Meat Tech is exposed to serious dangers in its strategic and operational outlook. The matrix helps the audience, yet this benefit relies on how often and to what degree it is updated and reviewed. A static matrix is likely to be outdated quickly in volatile industries, especially for a startup. The tool must be kept up to date by PT Meat Tech to record both internal control changes and any shifts in regulations or the economy.

### Risk Treatment

After carrying out a risk evaluation, the next stage is to carry out treatment to minimize the impact of the risk. PT Meat Tech will mitigate each risk which will be outlined in the table below. From this risk mitigation, a residual risk assessment will be carried out in terms of the Likelihood Level (LK) of the risk occurring, the Impact Level (LD) caused, the Risk Score (SR) and the Risk Rating (PR).

Table 8. Risk Mitigation Management PT Meat Tech

Risk Code	Risk Description	Mitigation Strategy	Person in Charge (PIC)	Residual Risk			
				LK	LD	SR	PR
<b>Internal Risks</b>							
<b>Marketing Risks</b>							
R001	Ineffective marketing and promotion strategy	Conduct market research to identify distributor opportunities, understand competitor strategies, reduce risks, set product or service prices, and evaluate the success of ongoing marketing activities	Head of Marketing	1	3	3	21
R002	Pricing errors	Conduct distributor research to determine the right product pricing and offer competitive prices	Head of Marketing	1	2	2	27
R003	Inharmonious communication and external relationships	Improve communication and relationships with external parties through regular meetings, training, and joint activities	Head of Marketing	2	4	8	6
<b>Operational Risks</b>							

R004	Disruptions in the supply chain for raw materials and packaging	Build good relationships with suppliers, collaborate with more than one supplier, and control inventory	Head of Production	1	4	4	17
R005	Inability to meet product quality standards	Improve product and service quality, implement quality control, and enhance production processes	Head of Production	1	2	2	28
R006	Limited production capacity	Increase production capacity by adding machinery or expanding the factory	Head of Production	1	1	1	33
R007	Dependence on specific types of meat	Conduct genetic engineering on the types of meat used to improve quality	Head of Production	3	3	9	2
R008	Imbalance between demand and production capacity	Increase production flexibility and control inventory	Head of Production	1	1	1	34
R009	Failure to improve raw material quality and genetic engineering	Conduct ongoing research and development, and collaborate with research institutions to enhance raw material quality	Head of Production	2	3	6	10
<b>Human Capital Risks</b>							
R010	Limited employee skills and competencies	Conduct training and employee development, recruit quality employees, and enhance employee motivation	Head of HR	3	3	9	3
R011	High employee turnover rate	Enhance employee motivation, provide incentives, and improve workplace quality	Head of HR	1	2	2	29
R012	Lack of employee development and retention programs	Create employee development and retention programs, provide incentives, and improve workplace quality	Head of HR	2	3	6	11
R013	Shortage of qualified human resources	Selectively recruit, provide training and development to employees, and retain	Head of HR	3	3	9	4

		quality employees with attractive incentives					
R014	Work accidents and employee injuries	Conduct regular safety training, ensure work equipment meets safety standards, implement safe work procedures, and provide safety equipment and BPJS insurance	Head of HR	1	3	3	22
<b>Financial Risks</b>							
R015	High capital requirements	Seek alternative funding sources such as bank loans, investors, or operational efficiencies to reduce capital needs	CEO, Head of Finance	3	3	9	5
R016	Inefficient cash and cash flow management	Improve cash and cash flow management, control costs, and enhance operational efficiency	Head of Finance	1	2	2	30
<b>External Risks</b>							
<b>Political Risks</b>							
R017	Changes in government regulations and policies	Improve understanding of government regulations and policies, implement compliance risk controls, and build good relationships with the government	Head of HR	2	3	6	12
R018	Uncertainty in licensing and operational permits	Improve understanding of licensing and operational permits, implement compliance risk controls, and build good relationships with the government	Head of Production	2	3	6	13
R019	Changes in tax and fiscal policies	Improve understanding of tax and fiscal policies, implement compliance risk controls, and build good relationships with the government	Head of Finance	2	3	6	14
R020	Changes in international trade policies	Improve understanding of international trade policies, implement compliance risk controls, and build good	Head of Marketing	1	3	3	23

		relationships with the government					
<b>Economic Risks</b>							
R021	Unstable exchange rates	Implement hedging and control foreign exchange risks	Head of Finance	2	3	6	15
R022	Changes in raw material prices and distributor price fluctuations	Implement hedging, collaborate with more than one supplier, and control inventory	Head of Finance	1	2	2	31
R023	Decreased purchasing power due to declining GDP per capita and inflation	Adjust product prices according to consumer purchasing power, and seek new distributors with higher purchasing power	Head of Marketing	2	3	6	16
R024	Intense competition with existing companies in the global distribution market	Improve product and service quality, offer competitive prices, and conduct effective promotions	Head of Marketing	3	4	12	1
<b>Social Risks</b>							
R025	Changes in consumer trends and preferences	Conduct distributor research to understand consumer needs and preferences, and anticipate changes in distributor trends	Head of Marketing	1	2	2	32
R026	Dependence on key customers	Improve customer service, build strong relationships with customers, develop new distributors, and conduct effective promotions and marketing	Head of Marketing	1	3	3	24
R027	Bad or failed customer receivables	Enhance receivables control and implement credit controls	Head of Finance	1	3	3	25
R028	Customer dissatisfaction and unresolved complaints	Improve product and service quality, enhance responsiveness to customer complaints, and improve communication with customers	Head of Marketing	1	4	4	18
R029	Dependence on main suppliers	Build good relationships with suppliers,	Head of Production	2	4	8	7

		collaborate with more than one supplier, and control inventory					
R030	Inability to obtain raw materials at adequate prices and quality	Conduct distributor research, collaborate with more than one supplier, and control inventory	Head of Production	1	3	3	26
R031	Litigation and legal disputes	Enhance legal risk controls, implement legal risk mitigation, and build good relationships with relevant parties	Head of HR	1	4	4	19
<b>Technological Risks</b>							
R032	Technological disruptions or information system failures	Enhance IT risk controls, conduct data backups, and improve data security	Head of Production	2	4	8	8
Other Risks							
R033	Environmental disturbances or natural disasters	Enhance environmental risk controls, conduct disaster mitigation, and build good relationships with the surrounding community	Head of Production	2	4	8	9
R034	Decreased meat quality	Build good relationships with suppliers, collaborate with more than one supplier, and control inventory	Head of Production	1	4	4	2

Table 8 switches from explaining risk awareness to describing how to deal with risks, what is done to address them, by whom and what remains unaddressed after treatment (using updated risk scores). It is considered more important than any other table because it turns analysis into actual actions.

The recommendations for each risk are usually logical and aimed at protecting the business. For instance, to avoid pricing errors (R002), firms research their competitors and the market, whereas to handle risks involving employees, training and learning programs are designed. Selecting people to manage each risk-treatment activity (such as the Head of HR and the Head of Production) guarantees that certain responsibilities cannot be questioned, as these are required for building a risk culture focused on performance.

After providing treatment, many of the risks have a decreased score on the residual risk scale, for example, R006 (limited capacity) drops to 1, meaning the treatment was effective. But, the company should make sure it remains alert. These scores depend on effective and lasting implementation which can be challenged by money problems, people leaving or managers moving on to other tasks. As a result, residual risk scores should be checked again from time to time using audits and measures of efficiency.

Through appropriate handling, PT Meat Tech will try to minimize the potential negative impacts that can result from these risks. After treatment is carried out, it is necessary to re-evaluate the risks that have been treated. In the table below you will see changes in the level of impact and possible risks after mitigation measures are implemented. This will assist PT Meat Tech in monitoring and evaluating the effectiveness of the actions taken in managing the risks faced.

Table 9. Potential Risk Evaluation Matrix

Risk Analysis Matrix		Impact				
		Insignificant	Minor	Moderate	Major	Catastrophic
		(1)	(2)	(3)	(4)	(5)
Possibility	Certain					
	(5)					
	Likely					
	(4)					
	Possible			R007,R010, R013,R015	R024	
	(3)					
	Unlikely			R009,R012, R017,R018, R019,R021, R023	R003,R029, R032,R033	
	(2)					
	Rare		R002,R005, R011,R016, R022,R025	R001,R014, R020,R026, R027,R030	R004,R028, R031,R034	
(1)	R006,R008					

Table 9 helps you to assess the remaining risks, after making the initial risk analysis and then applying mitigation strategies. There is a noticeable movement of risks away from red and orange zones in the heatmap compared to Table 7 which shows that risks at the organization have dropped significantly. Because of this shift, it appears that the countermeasures taken by PT Meat Tech have made their risk exposure lower on paper. Problems related to technology failure (R032) which once had a red rating, are now in the yellow or green zone as a result of executing data backups and better IT controls. Also, HR-related concerns become manageable after implementing changes to training and incentives.

Nevertheless, the results shown here should be understood with care. Mitigation efforts usually involve regular adjustments in behavior, long-term expensive investments and support from others (e.g., from suppliers or authorities). In addition such a matrix fails to pick up risks that may arise unexpectedly at another time. Such mitigations could be properly assessed when faced with challenges such as an economic downturn, a supplier unable to work or food safety scandals by doing scenario testing and sensitivity analysis.

### Communication and Consultation

Communication and consultation play a crucial role in risk management at PT Meat Tech, in line with the principles contained in ISO 31000. This involves a series of activities that include: PT Meat Tech will ensure that in the risk management process, various areas of expertise are actively involved. It is important for PT Meat Tech to ensure that relevant and adequate information is provided to relevant parties.

Monitoring and assessment are important components in risk management at PT Meat Tech, with the aim of ensuring the effectiveness of risk management and supporting overall organizational performance. PT Meat Tech implements monitoring and assessment practices that include: Risk owners routinely monitor and assess risks every month to evaluate the risk management that has been carried out. The risk owner and risk management team carry out risk evaluations at least once every 3 months, with a report on the results submitted to the director.

Involve other parties, such as supervisors, to carry out risk monitoring at any time to provide independent evaluation and external perspective. Based on findings from previous research, the importance of financial planning in providing quality services and maintaining business sustainability becomes clear (Wulandari et al., 2024). In managing risk management there are costs that must be prepared. PT Meat Tech's risk management budget will be explained in the table below.

Table 10. Risk Management Cost Budget

<b>Risk Management Fees</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
APAR tool - 3 kg & Powder (10 units)	12,000,000	-	2,000,000	-	-
CCTV 8 Channel	15,000,000	-	-	-	-
Property Insurance Premiums	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000
First Aid Kit (7 Unit)	10,500,000	-	-	7,000,000	-
Risk Consultation	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Preparation of Production SOPs	10,000,000	-	-	-	-
ISO 31000:2018 Training	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000
<b>Total</b>	<b>184,500,000</b>	<b>137,000,000</b>	<b>139,000,000</b>	<b>144,000,000</b>	<b>137,000,000</b>

As shown in Table 10, PT Meat Tech plans to invest over the next five years in risk management infrastructure. Some of the items covered in the budget are fire extinguishers (APAR), security cameras, insurance for the property, first-aid kits, charges for consultants, developing SOPs and training on ISO 31000. It proves that the company sees risk management as requiring real investment, not only formal documents.

Most of the budget is dedicated to training using ISO 31000 which costs IDR 120 million per year. This means the company is focusing on developing its own resources and creating standardization. Also, since property insurance costs must be met regularly and consultations are required, these actions seem to represent how much societies prefer to prevent disasters instead of just waiting for them. Even so, in certain key areas the budget seems to be lacking. For example, first aid and APAR are given little budget in later years which may not match what the company needs as it grows. No budget is planned for cybersecurity tools or infrastructure for managing IT risks which may be a risky decision given what we know about technology disruptions.

Also, there is no emergency reserve included in the budget to handle situations that require extra money which is common in risk-financing strategies. A fund would help PT Meat Tech adapt better to unexpected changes in regulations or supply chain issues. All in all, the budget shows a good focus on being ready for risks, but it could also offer more variety and flexibility.

The adoption of a proper risk management method at PT Meat Tech points out that the company understands its risks and also aims to ensure its strategic success in a difficult, resource-limited industry. The discussion identifies five main ideas in the data which include the completeness of operations, how easy it can be to lose workers, the challenges in aligning strategies, the ways risks appear and the effects of budgets. From these points, we can tell what PT Meat Tech does right and where there are weaknesses in their risk governance process.

Both of the matrices show that the company depends a lot on a few important parts of its supply chain. Availability of different animal proteins, transportation and limited capacity were rated as high or very high-risk factors. The dependence found here indicates that the firm's routine processes are inflexible and go against its goal of customized service. Effective food distribution in perishable imports has to be reliable and adaptable. Operational issues are threatening PT Meat Tech's differentiation because of their reliance on the bottlenecked aspect. According to recent research on ERM literature, companies in rapidly changing markets are warned not to develop their differentiating strategies on weak supports. If PT Meat Tech does not diversify its suppliers, add extra capacity or use flexible ways of sourcing, its ambitions can be limited by strategy.

A further issue is how PT Meat Tech's human resources can be easily affected by changes. It is indicated from the analysis that inadequate skills, high staff turnover and weak safety and growth programs are among the company's main risks. They play a key role for the company because the company's value is based on providing quality, expertise in handling and timely responses to customers. Discussions about people in the risk treatment table are often reactive and don't go past basic procedures. The risk management plan focuses on basic development and training, but does not address serious concerns about learning in the organization, fitting the company into cultural values or keeping workers for a longer time. This matches the concerns outlined in the literature on SME risk management which tends to see employee development as a cost rather than a way to help a company recover after a crisis (Crovini et al., 2021; Alves et al., 2020). The company will only succeed in risk management if it treats its employees as valued and important, not only as things they can manipulate.

The third issue appears when the risk management process is formal while PT Meat Tech's business keeps shifting. The company has adopted ISO 31000 and also made attractive risk matrices, heatmaps and treatment tables. They make things orderly by providing structure and control. Even so, startups face a lot of uncertainty, need to decide fast and have to handle continuously changing issues. Using very organized tools may make the company think they have all the answers. Templates alone are not enough for companies in fast-changing industries; they must also use adaptive approaches and revise their strategies often. Real-time market changes, input from customers or big-picture market signals are missing from the current way the risk model is set up. If a framework is not agile, it may not be able to keep up with future problems or changes.

Residual risk management also relies on the effects of performing risk-related actions. Risk scores in almost every category fall sharply after treatment which gives a clear visual sign of success. But, the results are goals we try to achieve. They depend on the idea, as the portfolio develops, that all prescribed treatment is applied right away, within budget and with all employees on board. Often, simple things such as resource issues lead to issues in the implementation process. Also, issues like damaging the organization's reputation or breaking regulations may need additional steps beyond just having controls in place. Many works on ERM maturity models advise that risk scores should not be used as a performance indicator,

because they actually reflect a manager's level of optimism. The company should look at its residual scores as ideas that can be questioned, tested and improved with personal experiences.

In addition, the cost budgeting table gives a factual but not fully detailed overview of risk investment. It clearly shows that risk governance is seen as an action and not only as a thought by PT Meat Tech. Constant investment in ISO training, SOP development and consultation shows the importance of standardizing and transmitting knowledge within the organization. Some budget lines are underfunded such as those for health, IT security and preparing for emergencies. As a result, risks are seen as relating mostly to following rules, rather than to the ability of the organization to operate well during disruptions. In addition, lacking a contingency fund or digital support (such as early warning systems or analysis of the supply chain) creates a gap between what is planned and what is actually done. Moşteanu et al. (2020) points out that risk resilience means both guarding against known risks and being ready to handle the unforeseen.

### **Conclusion**

Using technology helps food and beverage companies become more strategic, since their industry faces volatility, bound shelf-life and regulatory review. Because the company has processed, assessed and managed risks in operations, human capital, finance and with external factors, it has set up a well-structured system for handling risks. Having a visual matrix, clear scoring standards and role-based risk reduction plans makes things simpler and stresses accountability within the organization. At the same time, the research points out some underlying problems that may harm the system over the long term. First, the company faces key risks in its supply chain and in having a dependent workforce which mean they should consider extra expenses and prepare for potential situations. Residual risk scores measure improvement, but they can also lead to overconfidence about risk management unless proven with real-world data. In addition, the firm's budget commitments are not as strong as its ambitions for fair governance in areas like health safety, cybersecurity and handling emergencies. PT Meat Tech's case prove that handling risks is a constant commitment, involving making sure everyone understands the business culture and is prepared for expected and unexpected future changes. The company's willingness to embed risk thinking into its business processes is commendable, but its future resilience will depend on how well it sustains implementation, nurtures human capital, and builds agility into its decision-making processes. As such, this case contributes practical insights for SMEs aiming to transition from reactive risk handling to proactive enterprise risk governance in resource-constrained and high-uncertainty environments.

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