RISK ANALYSIS OF PD. DHARMA JAYA BEEF SUPPLY IN THE CONDITIONS OF THE COVID-19 PANDEMIC

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Abstract

This research is backgrounded by the level of public consumption of beef continuing to increase which is characterized by the continued increase in public demand. DKI Jakarta is the largest consumer of beef supplied by PD. Dharma Jaya. The covid-19 pandemic that made Jakarta the epicenter of the spread of the virus had a significant impact on the company and became a threat to the availability of beef in DKI Jakarta Province. Based on these problems, this study aims to identify the risks that occur in the conditions of the Covid-19 pandemic in each business process chain. Analyze the priority level of risk handling in the conditions of the Covid-19 pandemic in each business process chain using the Pareto Diagram. Analyze risk mapping using the *risk matrix chart.* Provide suggestions for priority risk mitigation actions that can be carried out.

The results of this study are known that the risks identified are the risk of delay in the arrival of beef cattle, the increase in the price of imported meat raw materials, damage or deterioration in the quality of meat during transportation and reception, sanitation, and hygiene are not implemented properly, handling of imported beef and distribution, equipment is not sterilized after use, there are no sanitation and disinfection efforts, no application *physical distancing*, there are no screening efforts on workers before slaughtering, workers are not orderly using PPE by health protocols, demand for meat has decreased, and sales targets are not achieved. The results of the risk mapping show that priority risks are in quadrants I and II.

The conclusions of this study show that there are 51 risks identified, including priority risks that could occur during the Covid-19 pandemic. The actions that need to be carried out in by the quadrant map are the management and control of risks. Risk mitigation that needs to be done in supervision and monitoring.

Keywords: Risk; Pareto Diagram; *Risk Matrix Chart*; Risk Mitigation

INTRODUCTION

Meat is one of the national strategic commodities in improving the needs and nutritional adequacy of the community. The increasing population and changes in consumption patterns and people's tastes have made the need for beef continue to increase. This increase is characterized by an increase in the amount of people's per capita consumption of beef. DKI Jakarta is a province on the island of Java with a high level of per capita beef consumption (Livestock In Figures, 2020). The high level of consumption makes the DKI Jakarta provincial government need an average beef

supply per month reaching 60,000 cows (Ditjenakkeswan, 2018), as well as beef supply imports as much as 70%.

PD. Dharma Jaya is assigned to be a supplier and stabilizer by running several business scopes such as providers and shelters for slaughtering livestock, management of slaughterhouses (RPH), the slaughter of livestock, and so on. Supply from PD. Dharma Jaya is distributed to 73 outlets owned by Pasar Jaya in 5 municipalities of DKI Jakarta. Until January, there was a covid-19 pandemic that made DKI Jakarta the epicenter with the highest rate of virus spread in Indonesia. The covid-19 pandemic has caused changes in all aspects of people's lives, including consumption patterns for beef. There was a significant decrease in the demand for beef due to a decrease in people's purchasing power. The amount of imported meat supply has also decreased significantly due to producing countries that tend to limit the amount of meat exported to meet the needs of their country due to *lockdown* policies.

The occurrence of the Covid-19 pandemic in Indonesia is a form of uncertainty so it becomes a risk that can have a significant impact on the sustainability of the PD business. Dharma Jaya. Several other factors such as the implementation of government policies with Large-Scale Social Restrictions (PSBB) are also a threat to the food supply, especially beef. These risks can have an impact on the company. Therefore, it is necessary to try to manage these risks and reduce the impact that can be caused. This is done so that the business process chain can continue to run smoothly so that the supply of beef can be guaranteed availability, quality, and safety. Based on this description, research on the risk analysis of Dharma Jaya beef supply in covid-19 conditions needs to be carried out. This study aims to, 1) identify the risks that occur in the conditions of the Covid-19 pandemic in each business process chain, 2) analyze the priority level of risk handling in the conditions of the Covid-19 pandemic in each business process chain using the Pareto Diagram, 3) analyze risk mapping using a *risk matrix chart,* and 4) provide suggestions for priority risk mitigation actions that can be carried out.

RESEARCH METHODS

Research Time and Location

The study was conducted in PD. Dharma Jaya, Penggilingan Street Raya No. 25 RT 07/08, Penggilingan, Cakung District, Jakarta Timur City, DKI Jakarta. The selection of the research site was carried out deliberately in May-August 2020.

Data Types and Sources

The types and sources of data used in this study are primary data and secondary data. Primary data in the form of interviews from respondents and verifiers who have been selected. Secondary data in the form of literature studies, and policies or regulations issued by the government.

Data Analysis
Risk Identification

Risk identification is an initial activity to get a list of risks in each company's business process chain regardless of whether the risk can be controlled or not. Data collection for risk identification is carried out in several stages, such as procurement

of raw materials, livestock storage, slaughter and handling, handling of imported meat, storage and warehousing and distribution.

Priority Risk Determination

To determine the priority risk in each business process chain is to provide a risk assessment. Assessment of measurement of risks is carried out by the method of approximation. The assessment is carried out in the form of a *Likert* scale from 1-5. Then a calculation of the risk status is carried out:

Risk Status = probability x consequences

The higher the value, the more it needs attention, and vice versa. After obtaining the results of the calculation, it is then included in the Pareto diagram to get priority risk result.

Risk Mapping

Risk mapping is carried out using *a risk matrix chart. The Risk Matrix Chart* consists of 4 quadrants, and each quadrant has different risk management or handling actions.

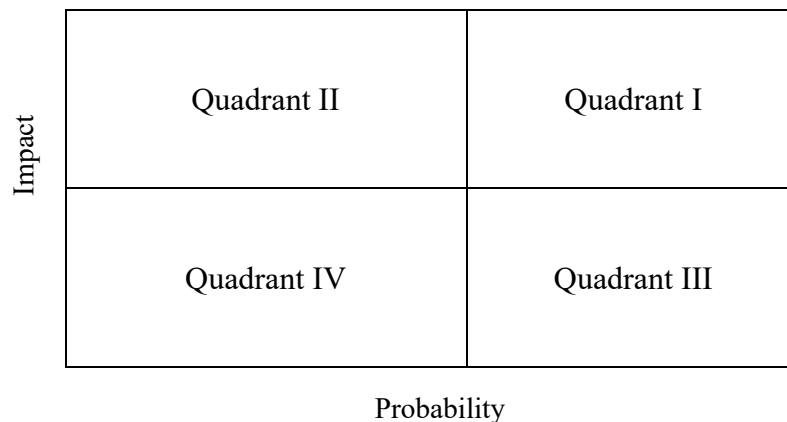| Impact	Quadrant II	Quadrant I
	Quadrant IV	Quadrant III

Probability

Figure 1. Risk Mapping Diagram
Source: Kountur. (2008: 45)

Information:
Quadrant I   : Risks which is frequent and has a huge impact and can threaten the achievement of goals
Quadrant II   : Risks which is rare but dangerous and has a great impact and can hinder the achievement of goals
Quadrant III : Risks that occur regularly but have little impact and can slightly affect the achievement of goals
Quadrant IV : A harmless risk and has very little impact.

Risk Mitigation

Risk mitigation can be adjusted to the priority risk position of the risk matrix chart because each quadrant has different control measures.
Quadrant I   : Risks in this quadrant belongs to the priority category I or main that can be controlled by avoiding and controlling

Quadrant II   : The contents in this quadrant can be handled by controlling through prevention and increasing supervision to minimize the risks and impacts caused

Quadrant II   : Risks in this quadrant can be handled by transferring to a party that has a small risk

Quadrant IV : There is this quadrant can be handled by accepting but still *detecting* and *monitoring*.

RESULTS AND DISCUSSION

The risks identified in the conditions of the Covid-19 pandemic in the procurement of raw materials for beef cattle 6 risks can occur by the activities carried out. However, there is a risk that has the potential to occur, namely the delay in the arrival of beef cattle. Delays in the logistics or delivery process can occur and become a risk due to the implementation of policies by the government. Not only related to cows' risks can also occur from the parties involved such as not implementing health protocols, not using masks properly and correctly, and not maintaining cleanliness by applicable recommendations. In the procurement of imported meat raw materials, there are 5 risks can occur. The occurrence of the Covid-19 pandemic can be a risk that has a significant impact such as the risk of increasing raw material prices, damage and deterioration in the quality of meat during delivery due to non-compliance with the rules, and a logistical slowdown due to current government policies. The occurrence of risks to livestock shelters or these shelters such as the unavailability of quality feed, dirty, perforated, and slippery cage floors, disease, and neglect of other important aspects. How to grow beef cattle before slaughter must also be considered properly such as the time of resting and grazing the cow before slaughtering at least 12 hours with the aim that the cow is calmer so that it does not trigger *stress*. The critical point there is the slaughter and handling of slaughtered meat that can cause beef to be of high quality and not meet the requirements of Safe, Healthy, Whole, and Halal (ASUH) is that the equipment used is not sterilized after use, there is no application of *physical distancing*, no *screening* efforts in workers before slaughtering, not using PPE, as well as dirty gan an enumerating room.

14 risks could occur in slaughtering and handling beef, but 5 of them have the potential to occur. In the handling of imported meat, important aspects need to be considered such as the work environment, hygiene, and sanitation of equipment and employees, as well as the implementation of production protocols. Storage and warehousing need to be considered to maintain the safety and quality of beef during the Covid-19 pandemic, such as sanitation and disinfection in the storage warehouse used. Risks to the distribution that need to be considered are the handling of loading and unloading, and environmental conditions such as temperature, air pressure, and humidity. Officers in charge of delivery are required to use masks, enforce *physical distance*, always wash their hands, and use *hand sanitizers*.

Furthermore, the risks that can occur are assessed using the approximation method. The method is used to determine the probability value and the impact of the occurrence of risks. After that, *the calculation of risk status* is also carried out by multiplying the results of probability and impact values. The results of the calculations are then included in the Pareto diagram to get the risk in each of the company's business process chains. The priority risks mapped are in quadrant I and quadrant II which means that management actions can be carried out by avoiding and controlling

risks. Risk mitigation can be carried out by supervising and *monitoring* each business process chain, providing training and supervision to workers related to animal welfare, sanitation, and hygiene, implementing health protocols, preparing safe stocks, conducting pros gram of cost efficiency, providing facilities, especially by health protocols, and sanctioning workers who violate covid-19 rules.

CONCLUSIONS AND SUGGESTIONS

The study concludes that there are 51 risks identified that could occur during the company's business processes ranging from procurement of raw materials, livestock storage, slaughter, and handling of RPH, handling imported meat, storage, and warehousing, to distribution. Of the 51 risks, priority risks are obtained to the possibility of occurring, especially in conditions of the Covid-19 pandemic, such as the risk of increasing the price of raw materials (beef cattle and frozen imported meat), delays in the arrival of beef cattle and frozen imported meat, cows are not fasted for at least 12 hours, cows are affected by diseases, there is no application of *physical distancing*, slaughter workers do not use PPE by health protocols, dirty meat handling rooms, *hygiene* and sanitation are not implemented properly, the risk of temperature reduction or instability and health protocols are not implemented properly. These priority risks, it is mapped in quadrants I and II, which means that management actions can be carried out by avoiding and controlling risks. Risk mitigation can be done is by supervising every business process, providing training to workers related to animal welfare, sanitation, and hygiene, implementing health protocols, as well as providing sanctions for workers who violate covid-19 rules.

Suggestions that can be given in this study are, 1) conducting periodic audits of the implementation of health protocols as an effort to tighten supervision, 2) procuring standard covid-19 equipment, and 3) providing education or socialization related to the COVID-19 pandemic.

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