Management Dynamics: International Journal of Management and Digital Sciences
Volume. 2 Nomor. 1 Tahun 2025
e-ISSN : e-ISSN : 3048-4162, p-ISSN : 3048-4154, Page. 15-28
DOI: https://doi.org/10.70062/managementdynamics.v2i1.48
Available online at: https://management.ifrel.org/index.php/ManagementDynamics

Dynamic Approach to Crab Inventory Management in Juata Sea: Balancing Demand and Operational Risks

Nurul Hidayat[1], Ranianty Ruru[2], Nurhasanah Nurhasanah[3], Gilang Ramadhan[4]

[1-4] Management, Faculty of Economy, University of Borneo Tarakan, Indonesia

Email: nurul.hidayat8910@gmail.com[1], rururanianty@gmail.com[2], nurhsnh733@gmail.com[3], gilangramob1@gmail.com[4]

Abstract. *Harapan Baru is a crab procurement business that serves as a critical link between fishermen and pond farmers. Crabs, as the primary commodity, are subject to significant price fluctuations and quality variations. This study aims to evaluate the economic viability of Harapan Baru's operations by analyzing costs, revenue, and profitability. Employing a critical incident technique, the research found that the First-In-First-Out (FIFO) inventory management method and Economic Order Quantity (EOQ) model significantly enhance operational efficiency. By ensuring timely inventory turnover and optimizing order quantities, these methods mitigate risks associated with demand variability, climate change, and operational challenges. Moreover, the study underscores the essential role of mangrove ecosystems in sustaining crab populations and the economic benefits derived from this natural resource. The integration of technology and SWOT analysis highlights the potential for Harapan Baru to enhance its competitive advantage and contribute to the long-term sustainability of the fisheries industry.*

Keywords: *Crab supply management, Fluctuating crab prices, Crab quality.*

1. INTRODUCTION

Coastal ecosystems play a crucial role in maintaining populations of mangrove crabs (Scylla serrata), which have high economic and ecological value. Over the past two decades, various studies have been conducted to understand the aspects that influence mangrove crab populations and management, ranging from environmental changes to the impacts of human activities. Recent research shows that mangrove ecosystems have a steep environmental gradient. These characteristic features of mangrove ecosystems cause mangrove forests to have various functions in terms of physical, biological/ecological, and socioeconomic aspects. In terms of biology, mangrove ecosystems can serve as habitats and breeding grounds for aquatic biota such as crabs, shellfish, fish, and other types of mollusks (Roni & Erny, 2021).

Crabs are biota that live in various types of waters, such as freshwater, brackish water, and seawater. However, most crab species are found in brackish water environments, especially in mangrove forest ecosystems. The presence of mangrove crabs often serves as an indicator of successful mangrove ecosystem management. With their high adaptability, crabs play an important role as a keystone species in maintaining the balance of mangrove forests. Mangrove crabs belong to the Portunidae family, which is one of the cultured fishery commodities. The purpose of this study is to determine the sex of mangrove crabs, the size

Received: November 16, 2024; Revised: November 30, 2024; Accepted: Desember 15, 2024;
Online Available: Desember 17, 2024

structure of mangrove crabs, the weight of mangrove crabs, and the price of crabs. (Adriyani et al., 2023)

In the context of crab inventory, the importance of inventory control to avoid losses due to spoilage and storage costs is an analysis conducted on exports, where there is a problem of unstable raw material supply. When crab supply is too low, production must be reduced, while excess stock can lead to spoilage and high storage costs. To avoid spoilage and high costs, collectors, one of which is Toko Harapan Baru, which is engaged in collecting the catch of fishermen, namely crabs. Toko Harapan Baru directly loads or exports the results from fishermen. They apply the FIFO (First In, First Out) principle by using or selling the crabs that were first received first. This helps reduce the risk of spoilage due to old stock being left behind. Store crabs in clean and dry containers, with good airflow. Keep the crabs moist, for example by using a damp cloth placed around the storage area, so that the crabs stay fresh longer. Although not using a refrigerator, choosing a cool storage area that is not exposed to direct sunlight can help reduce the rate of spoilage. Additionally, crabs can be stored in boxes with a little ice wrapped in cloth, to maintain moisture without making them too cold. Communicate the need for more frequent supplies in smaller quantities with suppliers or fishermen. This allows Toko Harapan Baru to always have fresh stock without having to store large quantities at once. Use containers or baskets that allow good air circulation, such as bamboo baskets or perforated plastic. This helps maintain quality and reduce excess moisture that accelerates spoilage.

This study aims to analyze costs, revenue, income, and business feasibility in the crab business, as well as the marketing strategies implemented. Using the interview method, this study focuses on identifying critical incidents that affect the operations and profitability of the crab business. This study will also pay attention to the analysis of business feasibility, which includes costs and revenue, as discussed by (Widiastuti & Hidayati, 2020) in their study of crab farming in Mempawah Regency. It is hoped that the results of this analysis can provide deeper insights into the factors that influence the success of the crab business, as explained by (Junaidi & Lestari, 2018) in their research on marketing strategies for fishery products. In addition, this study also aims to assist in making strategic decisions that can increase competitiveness and business sustainability in an increasingly competitive market, in accordance with the analysis conducted by (Prabowo & Rahman, 2019) regarding the costs of production and marketing of crabs.

2. LITERATURE REVIEW

A. Inventory Management Strategies in Seafood Supply Chains

First-In, First-Out (FIFO) and Economic Order Quantity (EOQ) methods are commonly used in managing seafood inventory. FIFO ensures that older stock is sold first, maintaining product freshness and reducing wastage (Sitharaman & Shah, 2019). The EOQ model, meanwhile, optimizes ordering and holding costs, balancing inventory replenishment with storage capacity (Lee et al., 2021). However, traditional approaches may be inadequate when addressing sudden shifts in demand or supply disruptions caused by environmental factors.

B. Role of Technology in Modern Inventory Management

Advancements in technology have introduced dynamic and predictive models for inventory management, incorporating real-time monitoring and data analytics. According to Kim et al. (2020), integrating technologies such as IoT (Internet of Things) and AI (Artificial Intelligence) enables businesses to forecast demand more accurately and respond quickly to market changes. These tools are particularly beneficial in seafood industries like Juata Sea, where operational risks—such as weather-dependent supply and short product shelf life—can significantly affect business outcomes.

3. METHODS

A. Research Approach and Type

In the context of crab inventory, a qualitative approach can be utilized to delve into the specific experiences of employees or stakeholders involved in inventory management. Through this approach, companies can gain a deeper understanding of critical situations, factors influencing the quality and quantity of stock, and events that may have a significant impact on the supply chain.

B. Data Collection Techniques

Data collection techniques in crab inventory research can be conducted through several effective methods to obtain accurate and relevant information:

1) Observation: This method involves direct observation of the crab cultivation, storage, and distribution processes. By conducting observations, researchers can understand the conditions in the field, specifically in Juata Laut, the practices implemented by farmers, and the challenges they face in managing crab inventory. Researchers can record various factors such as water quality, storage techniques, and interactions between farmers and collectors, thereby obtaining valuable data for further analysis.

2) Interviews: Conducting interviews with various parties, such as at Toko Harapan Baru, including farmers and collectors, provides in-depth insights into crab inventory management. Interviews can be conducted in a structured or semi-structured manner to explore information about best practices, problems in the supply chain, and their hopes and needs regarding inventory management. Data from these interviews can be used to identify patterns and trends in the crab industry.

4. RESULTS

A. Data Analysis Results: Demand

1) Trends

Historical data shows that crab demand experiences significant seasonal fluctuations. Generally, demand increases during:- **Holiday Seasons**: Demand rises during year-end holidays (December to early January) and Chinese New Year (Lunar New Year) due to increased seafood consumption.

2) Demand Projection

Based on historical patterns and influencing factors, the following is the projected crab demand:

a. **Seasonal Projection:** Crab demand is expected to remain high during year-end holidays and major celebrations. To anticipate this demand, companies need to increase inventory and pay attention to supply before the peak demand period.

b. **Long-Term Projection:** Considering the increasing consumption trend and growing popularity of seafood, crab demand is projected to increase by approximately 10-15% annually. This is also driven by increased demand from exporters.

c. **Impact of Climate Change:** In the long term, climate change can be a major factor affecting crab demand and availability. Extreme weather can worsen fishing conditions, so this operational risk needs to be anticipated through flexible inventory management strategies.

B. Identification of Operational Risks

In the crab cultivation process, several problems arise when a large number of crabs escape from the pond, resulting in a reduced harvest compared to the initial number of seeds distributed. Another obstacle is when weather conditions are inadequate, such as heavy rain or large waves, making it impossible for farmers to harvest their crops, thus delaying the shipment of crabs from farmers to collectors. One of the obstacles

experienced by crab collectors, such as Toko Harapan Baru, is when heavy rain or large waves occur, causing the shipment of crabs from farmers to be delayed and can also result in a shortage of crab stocks at Toko Harapan Baru, and the process of distributing crabs from Toko Harapan Baru to exporters is delayed and hindered.

C. Evaluation of Inventory Strategy Performance in SWOT Analysis

Strengths: A stable average inventory approach over six months in crab management aims to reduce demand fluctuations and ensure product availability. By analyzing historical data, producers can predict needs and optimize stock. Limiting orders to the factory is also important, as it helps avoid overstocking and reduces storage costs. This strategy allows for more efficient management, maintains product quality, and effectively meets market demand.

Weaknesses: Poorly managed crab inventory can have a negative impact on profitability. Old, unsold crab stock can experience a decline in quality, such as unpleasant odors and textures, making it unfit for consumption and resulting in financial losses. Additionally, improper storage methods, such as inappropriate temperatures, can accelerate product spoilage. Therefore, it is important to implement an effective inventory management system to maintain crab quality and minimize the risk of losses.

Opportunities: Increased use of technology in crab inventory management can significantly improve visibility and control. Software-based inventory management systems allow companies to monitor stock in real-time, reducing the risk of overstocking or understocking. Demand forecasting methods, such as Monte Carlo simulation, can help estimate raw material needs more accurately, which in turn minimizes storage costs and unnecessary investments. Additionally, the implementation of modern inventory control algorithms can optimize ordering and delivery processes, ensuring that crabs remain fresh and of high quality when they reach consumers.

Threats: Sudden changes in market demand can have a significant impact on crab availability and affect customer satisfaction. When demand increases, supply shortages can occur, causing customers to not get the crabs they want. On the other hand, if demand decreases, excess stock can result in losses due to declining product quality and high storage costs. Therefore, it is important to implement a responsive and flexible inventory management system to balance supply and demand and ensure customer satisfaction.

The FIFO (First In, First Out) method is an approach used to manage inventory or calculate the cost of goods sold (COGS), where the first items purchased are assumed to

be the first ones issued or sold. In other words, items that enter the inventory first are used or sold first.

D. Steps in the FIFO Method:

1. Recording Purchases: Each purchase of goods is recorded with the price and quantity purchased.
2. Issuing Goods: The first items purchased are issued first when used or sold.
3. Inventory Valuation: At the end of the accounting period, the remaining items in inventory are the items purchased later, so the prices of these items reflect the latest prices.

E. Advantages and Disadvantages of FIFO:

- **Advantages:** Provides a more accurate picture of the prices of goods in inventory, as it reflects the latest prices. In inflationary conditions, FIFO results in a lower COGS and higher profits because goods purchased earlier at lower prices are issued first.
- **Disadvantages:** In inflationary conditions, the reported profit can be higher than reality because cheaper goods are issued first, while newer goods with higher prices remain in inventory

The FIFO method is very useful, especially in industries that handle goods with limited shelf life, such as food and drugs, because the first items in should be used or sold first.

1. Yearly crab procurement records

Date of Purchase	Quantity (Kg)	Rate/Kg (Rp)	Total (Rp)
1 January	1.200	Rp 90.000	Rp 108.000.000
5 March	900	Rp 85.000	Rp 76.500.000
4 April	1.900	Rp 89.000	Rp 169.100.000
6 May	990	Rp 105000	Rp 103.950.000
7 August	1.050	Rp 90.000	Rp 94.500.000
11 September	750	Rp 105.000	Rp 78.750.000
1 November	2.300	Rp 115.000	Rp 264.500.000
Total	9.090	Rp 679.000.000	Rp 895.300.000.000

Source: Data processed by the researcher (2024).

F. Explanation Based on Data:

1. Total Purchase (kg):

- The total quantity of goods purchased throughout the year was **9,090 kg**. This figure represents the cumulative sum of all recorded purchases in the table.

2. Total Purchase Value (Rp):

- The total value of purchases for the year amounted to **Rp895,300,000**. This value was calculated by summing up the total cost of each purchase (quantity of goods multiplied by the price per kg).

3. **Average Price per kg:**

   Based on the total purchase and the quantity of goods, **the average price per kilogram** can be calculated using the following formula:

$$\text{Average Price Kg} = \frac{Price\ Total}{Total\ quantity\ Kg} = \frac{Rp895.300.000}{9.090\ Kg} = 98.500\ Rp/kg$$

   - The average price per kilogram of goods throughout the year was approximately **Rp98,500**.

4. **Purchase Summary:**
   - **Peak Purchase:** The peak purchase was recorded on **November 1st**, with a quantity of **2,300 kg** at a unit price of **Rp115,000**, amounting to a total of **Rp264,500,000**.
   - **Lowest Purchase:** The lowest purchase was recorded on **September 11th**, with a quantity of **750 kg** at a unit price of **Rp105,000**, amounting to a total of **Rp78,750,000**.

2. Annual Crab Sales

Date of Purchase	Quantity Kg	Rate per Kg (Rp)	Total (Rp)
1 January	1.200	Rp90,000	Rp108,000,000
5 March	900	Rp85,000	Rp76,500,000
4-Apr	1.900	Rp89,000	Rp169,100,000
6 May	990	Rp105,000	Rp103,950,000
7 August	1.050	Rp90,000	Rp94,500,000
Total	6.040	459000.000	Rp552,050,000

Source: Data processed by the researcher (2024).

The FIFO (First In, First Out) method adheres to the principle that the first items purchased are the first ones to be sold or used. In other words, goods purchased earlier (such as in January and March) will be utilized or sold before goods purchased later (like in May and August). The application of FIFO influences the calculation of the **cost of goods sold (COGS)**. The first items sold are valued at the older, potentially lower purchase price. Only when these older, lower-priced items are depleted will the newer, higher-priced items be included in the COGS calculation. FIFO provides a more accurate representation of inventory costs and values, especially during periods of rising prices (inflation). For instance, if 3,000 kg of goods were used, the first 1,200 kg would come from the January purchase, followed by 900 kg from March, and 900 kg from April, resulting in a total COGS of Rp264,600,000. Overall, FIFO is an effective method for inventory management and provides a more accurate cost estimate, particularly in inflationary environments.

3. Ending inventory

Date of Purchase	Quantity Kg	Rate per Kg (Rp)	Total (Rp)
11-Sep	750	Rp105,000	Rp78,750,000
1-Nov	2.300	Rp115,000	Rp264,500,000
Total	3.050	Rp 220.000.000	Rp343,250,000

Source: Data processed by the researcher (2024).

The FIFO (First In, First Out) method stipulates that the first items purchased are the first ones to be sold or used. However, for ending inventory, the remaining items are those purchased last and have not yet been sold or consumed. Consequently, the total ending inventory is 3,050 kg, comprising purchases made on September 11th and November 1st, with a total value of Rp343,250,000. The 750 kg from the September 11th purchase is valued at Rp105,000 per kg, while the 2,300 kg from the November 1st purchase is valued at Rp115,000 per kg.

4. Annual Summary

Annotation	Total
Cost of Goods Sold	Rp 552.050.000
Closing Inventory	Rp 343.250.000

Source: Data processed by the researcher (2024).

The total cost of goods sold is Rp552,050,000, calculated based on the first items purchased and sold. Under the FIFO method, older items (purchased at lower prices) are assumed to be sold first, resulting in a lower cost of goods sold. Meanwhile, the ending inventory value of Rp343,250,000 reflects the most recent purchases that have not yet been sold. In FIFO, newer items (purchased at higher prices) remain in inventory and are valued at their higher purchase cost. Overall, in the FIFO method, older purchases are included in the cost of goods sold, while newer purchases remain in ending inventory at a higher value.

5. EOQ calculation

Parameter	Nilai
Annual Demand (D)	9,090 kg
Ordering Cost (S)	Rp500.000
Average price per Kg	Rp98.500
Holding Cost (H)	Rp19.700 / kg
Economic Order Quantity (EOQ)	**679,28 kg**

Source: Data processed by the researcher (2024).

To calculate the EOQ (Economic Order Quantity) based on the given data, the following calculations are made:

5. Determining the Parameters:

D (Annual Demand): 9,090 kg (based on total purchases).

S (Ordering Cost): Rp500,000 per order

H (Holding Cost per Unit /Year): 20% of the average price per kg per year

- Average price kg = $\frac{\text{Rp895.300.000}}{\text{9.090 kg}}$ = Rp98.492.8492
- Holding Cost per unit (H) = 20% × Rp Rp98.492.8492= Rp19.698.569,8=19.700 per kg per Year.

1. **The calculation of Economic Order Quantity (EOQ) is determined using the following formula**

Average per Kg = $\frac{Total\ Price}{Total\ Amount\ Kg} = \frac{Rp895.300.000}{9.090\ Kg} = 98.492.8492\ Rp/kg$

Therefore, the annual holding cost per kilogram (H) is 20% of Rp98.492.8492:

H=0,2×98.492.8492=Rp19.698.569,8=19.700 per kg/year

Therefore, the EOQ is

EOQ= $\sqrt{\frac{2\times D\times S}{H}} = \sqrt{\frac{2\times 9.090\times 500.000}{19.700}} = 679,28\ kg$

EOQ calculation in POM

6. Calculation of Average Inventory

Parameter	Nilai
Economic Order Quantity (EOQ)	679,28 kg
Average Inventory	**339.64 kg**

Source: Data processed by the researcher (2024).

In the EOQ method, average inventory can be calculated using the following formula:

Average Inventory = $\frac{EOQ}{2}$

Given the EOQ we determined earlier, which is 679.28 kg, the average inventory can be calculated in the following manner:

Average Inventory= $\frac{679,28}{2} = 339,64\ kg$

7. Inventory Turnover Calculation

Parameter	Nilai
Cost of Goods Sold (COGS)	Rp895,300,000
Average Inventory (in Rupiah)	Rp33,452,111
Inventory Turnover	**26,77 times**

Source: Data processed by the researcher (2024).

Inventory turnover ratio is a metric that measures how quickly inventory is sold and replaced during a period. The formula to calculate inventory turnover ratio is:

$$\text{Inventory Turnover} = \frac{Cost\ of\ Goods\ Sold\ (COGS)}{Average\ inventory}$$

To calculate the inventory turnover ratio, we need the following data:

- **Cost of Goods Sold (COGS):**
  - The total cost of inventory sold in one year. If there's no direct data for COGS, we can use the total purchases for the year as an approximation.
- **Average Inventory:**
  - The previously calculated average value of inventory.

From the previous table:

- **Cost of Goods Sold (COGS)** = Rp895,300,000 (annual total purchases as an approximation)
- **Average Inventory** = 339.64 kg

The following is the calculation for inventory turnover:

$$\text{Inventory Turnover} = \frac{895.300.000}{339,64} = 2.637.113$$

Recalculate the average inventory into Rupiah using the previously calculated average price per kg of Rp98,500. This gives us an average inventory value of Rp33,452,111. With this new value, we can then recalculate the inventory turnover ratio more accurately:

$$\text{Inventory Turnover} = \frac{895.300.000}{33.452.111} = 26,76363 = 26,77$$

With the corrected calculations, the inventory turnover ratio is approximately 26.76363, which can be rounded up to 26.77 times per year.

8. *Total annual inventory cost*:

Manual calculation :

Q = 679,28

D = 9090

S = Rp. 500.000

H = Rp. 19.700

Then ;

$= \left(\frac{9090}{679,28}\right) x\ 500.000\ x\ \left(\frac{679,28}{2}\right) x\ 19.700$

= 13,38 x 500.000 + 339.64 x 19.700

= 6.690.908 + 6.690.908

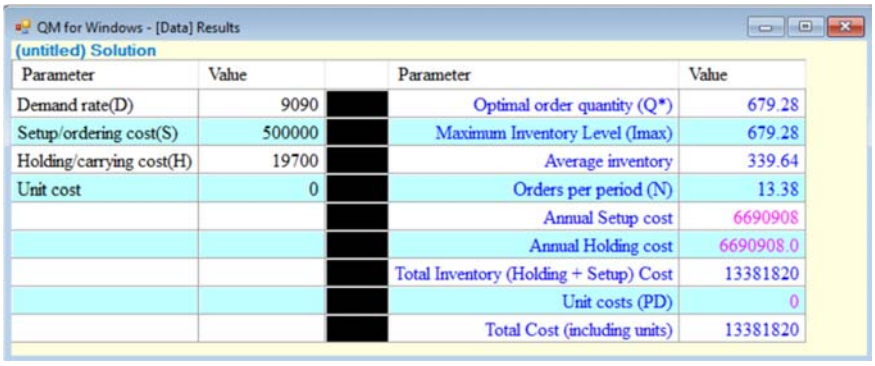
= 13.381.816

Excel Calculation :

EOQ (Q)	Demand rate (D)	Ordering cost (S)	Holding cost (H)	Calculation	Result
679,28	9090	500.000	19.700	Rp 6.690.908,01	Rp 13.381.816,02
				Rp 6.690.908,01	

Source: Data processed by the researcher (2024).

POM Calculation :



9. Annual Holding Cost

Manual calculation :

Q = 679,28

H = Rp. 19.700

As a result, the annual holding cost = $\frac{Q}{2}$ x H

$= \frac{679.28}{2}$ x 19.700

$= \frac{13.381.816}{2}$

= Rp. 6.690.908

Excel Calculation :

Component	Value (Rp)
Q (EOQ)	679,28
H (holding cost)	19.7
Calculation result	**6.690.908,01**

Source: Data processed by the researcher (2024).

POM Calculation :

QM for Windows - [Data] Results

(untitled) Solution

Parameter	Value		Parameter	Value
Demand rate(D)	9090		Optimal order quantity (Q*)	679.28
Setup/ordering cost(S)	500000		Maximum Inventory Level (Imax)	679.28
Holding/carrying cost(H)	19700		Average inventory	339.64
Unit cost	0		Orders per period (N)	13.38
			Annual Setup cost	6690908
			Annual Holding cost	6690908.0
			Total Inventory (Holding + Setup) Cost	13381820
			Unit costs (PD)	0
			Total Cost (including units)	13381820

5. CONCLUSION

A. Significance of Mangrove Ecosystems

Mangrove ecosystems play a crucial role as primary habitats and breeding grounds for mud crabs, which have high economic and ecological value. The presence of mangroves not only supports the sustainability of crab populations but also serves as a key indicator for measuring the success of sustainable coastal management.

B. Increasing Demand for Crabs

The demand for crabs is projected to increase by 10-20% annually, especially during holidays and major celebrations, necessitating a flexible and responsive inventory management strategy to ensure the availability of quality products to meet market needs.

C. Opportunities for Toko Harapan Baru

With a more modern, efficient, and technology-based inventory management system, Toko Harapan Baru has a significant opportunity to enhance its competitiveness and business sustainability. This strategy can also serve as a benchmark for other businesses in managing supply chains and formulating effective marketing strategies in the future.

D. Efficiency of Inventory Management at Toko Harapan Baru

Inventory management at Toko Harapan Baru using the FIFO (First-In, First-Out) method has proven effective in optimizing inventory, maintaining product quality, and minimizing the risk of damage. This method is also effective in dealing with price fluctuations and seasonal demand, while helping to calculate the Cost of Goods Sold (COGS) more accurately. Additionally, the EOQ (Economic Order Quantity) approach provides a good guideline for balancing storage and ordering costs.

E. Challenges in Crab Business Management

The crab business faces various challenges, such as sharp price fluctuations, the risk of product damage due to inadequate storage, and operational constraints influenced by weather conditions and supply disruptions from fish farms. To manage these risks, a more advanced strategy is needed, including the use of technology to predict demand and monitor inventory directly.

F. Business Prospects Based on SWOT Analysis

Based on a SWOT analysis, the crab business has good growth potential, driven by increasing demand for seafood products in both domestic and international markets. However, challenges such as sudden changes in demand and the impacts of climate change require rapid management.

G. Importance of Operational Efficiency

Operational efficiency is crucial for business sustainability. By implementing modern technology and establishing closer communication with suppliers, inventory management can be more effective, reducing losses, maintaining competitiveness, and ensuring business continuity. This approach offers significant opportunities for Toko Harapan Baru to address market challenges and strengthen its position in the industry.

6. LIMITATION

The dependency on mangrove ecosystems, which are vulnerable to deforestation, pollution, and climate change, poses a risk to the sustainability of mud crab populations. Projected increases in crab demand, though optimistic, may not fully account for economic fluctuations or shifts in consumer preferences. Implementing modern inventory management systems, while promising, requires substantial investment, staff training, and adaptability, which may challenge scalability. Moreover, the reliance on FIFO and EOQ methods may be insufficient to address severe price volatility, unexpected demand surges, and logistical complexities. Technological advancements, though crucial for operational efficiency, depend on reliable infrastructure, which may not always be accessible. Additionally, SWOT analysis-driven strategies might overlook external risks such as regulatory changes or international trade barriers. Finally, long-term challenges, including the impacts of climate change and supply chain disruptions, underscore the need for resilient and adaptive business strategies.

REFERENCES

Afifuddin, S. A. (2011). Kajian perencanaan dan pengendalian persediaan bahan baku kepiting jenis rajungan pada PT. Toba Surimi Industries Kawasan Industri Medan (KIM) II Deli Serdang.

Aji, W. P., & Sugiarto, Y. (2014). Analisis pengaruh orientasi pasar, orientasi kewirausahaan, dan daya saing terhadap kinerja pemasaran industri knalpot (Studi pada home industri knalpot di Kabupaten Purbalingga) [Doctoral dissertation, Fakultas Ekonomika dan Bisnis].

Dananjaya, K., Prayitno, G., & Nafurbenan, D. A. (2022). Distribusi ukuran dan pola pertumbuhan kepiting bakau, Scylla serrata (Forskal, 1775) yang ditangkap dengan bubu dan jaring insang di perairan Distrik Babo Teluk Bintuni Papua Barat. Jurnal Sumberdaya Akuatik Indopasifik, 6(3), 247–258.

Fayzun, M. (2022). Pengaruh pemberian pakan alami yang berbeda terhadap percepatan moulting kepiting bakau (Scylla sp) di tambak tradisional Kota Tarakan Kalimantan Utara.

Ferdiansyah, F., Fitriyana, F., & Fahrizal, W. (2023). Analisis kelayakan usaha ekspor kepiting bakau (Scylla serrata) pada CV. Sinar Sulawesi Kota Tarakan. Juvenil: Jurnal Ilmiah Kelautan dan Perikanan, 4(4), 336–343.

Hidayat, N., Amiluddin, A., & Baso, A. (2022). Mangrove crab (Scylla spp.) catching units as a community side business in Tarakan Tengah Sub-District, City of Tarakan. Ponggawa: Journal of Fisheries Socio-Economic, 65–78.

Novianto, A. D., Ishaq, A., Kholil, I., Sumbaryadi, A., & Iriadi, N. (2021). Analisis strategi sistem persediaan bahan baku pada restoran seafood Asap Cendrawasih dengan metode SWOT. Indonesian Journal on Software Engineering (IJSE, 7(1), 10–16.

Pattiwael, J. F. I. (2017). Analisa persediaan bahan baku menggunakan material requirements planning (MRP) untuk mengurangi kepiting yang tidak segar di Restoran Alam Sari Purwakarta.

Rompas, D. R. (2014). Studi keanekaragaman hayati Crustacea hasil tangkapan mini trawl dan set net di perairan Juata Laut Kota Tarakan.

Rosmaini, R. (2014). Review on raw material inventory planning and control of small crab at PT. Toba Surimi Industries Medan Industrial Estate (KIM) II Deliserdang. JKBM (Jurnal Konsep Bisnis dan Manajemen, 1(1), 61–70.

Syahputra, M. I. (2020). Minimasi biaya persediaan dan optimasi jumlah bahan baku makanan dengan metode Economic Order Quantity (EOQ) untuk perishable product pada restoran seafood. Skripsi.

Widiastuti, E., & Hidayati, R. (2020). Analisis kelayakan usaha budidaya kepiting di Kabupaten Mempawah. Jurnal Sumberdaya Akuatik, 3(2), 57–64.