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THE EFFECT OF PLANNING, FERTILIZER INVENTORY CONTROL, AND SUSTAINABILITY REPORTS ON PALM OIL SEEDLING SALES AT CV. TRANS BAROKAH MANDIRI

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ABSTRACT

Fertilizer inventory planning and control are crucial aspects in improving the effectiveness of distribution and sales of oil palm seedlings. This study aims to analyze the effect of fertilizer inventory planning, fertilizer inventory control, and sustainability reports on the sales of oil palm seedlings at CV. Trans Barokah Mandiri. This research was conducted in Palembang City using a quantitative descriptive research method. The population in this study consists of fertilizer inventory reports from 2021 to 2023 at CV. Trans Barokah Mandiri, with a sample size of 36, obtained from a total research period of three years (2021-2023) with data division based on months, i.e., 12 months per year. Data were analyzed using multiple linear regression with SPSS version 26. The results showed that partially, fertilizer inventory planning had a significant effect on the sales of oil palm seedlings, while fertilizer inventory control and sustainability reports did not have a significant effect. Simultaneously, the three independent variables had a significant effect on the sales of oil palm seedlings.

Keywords: Fertilizer Inventory Planning, Fertilizer Inventory Control, Sustainability Report, Oil Palm Seedling Sales

INTRODUCTION

The palm oil industry is one of the key sectors supporting the national economy. However, increasing sustainability challenges are pressuring companies to integrate the principles of the Sustainable Development Goals (SDGs) 2030. The SDGs are a global initiative aimed at achieving a balance between economic, social, and environmental aspects while targeting various objectives to enhance sustainability across different industrial sectors (United Nations, 2023). Companies in the plantation sector, particularly palm oil, are becoming increasingly aware that implementing SDGs is not just an ethical obligation but also a business strategy that strengthens their market position. Strengthening sustainable practices allows companies to achieve greater efficiency, reduce operational risks, and improve competitiveness by minimizing environmental impacts and enhancing workers' welfare (Setiawan & Mulyana, 2020). In the plantation industry, planning plays a crucial role in achieving sustainability, particularly in managing resources wisely and ensuring continuous production. Hastuti and

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Wirawan (2021) emphasized that strategic planning in the plantation sector not only involves production planning but also efficient resource management to minimize environmental impacts. Fertilizer inventory control is a vital component of plantation operations, directly affecting the sustainability of the business (Putri et al., 2021). Effective inventory control enables companies to maintain a steady supply of raw materials as needed for production without causing excess waste. Suharyanto (2023) stated that efficient inventory management can reduce storage costs and prevent losses caused by stock quality deterioration. In the plantation sector, proper inventory management can help companies avoid dependence on external supplies and anticipate unpredictable fluctuations in raw material prices (Wijaya & Haryanto, 2020).

A sustainability report is an essential tool for companies to demonstrate their commitment to sustainable business practices, particularly in social and environmental aspects. Through this report, companies can communicate the impact of their activities and the initiatives supporting environmental conservation and community well-being (Lestari & Wijaya, 2023). Consistently preparing sustainability reports shows that the company is committed to supporting sustainability principles, thereby fostering good relationships with stakeholders and reducing reputational risks (Setiawati, 2022).

CV. Trans Barokah Mandiri, established in 2014, is one of the partners of PT. Bina Sawit Makmur, located in Talang Buluh Village, Talang Kelapa District, Banyuasin Regency, South Sumatra Province. The company aims to meet the demand for high-quality palm oil seedlings and address the proliferation of illegal seedlings that can harm farmers. As a palm oil plantation company, CV. Trans Barokah Mandiri plays a significant role in supporting the local community's financial income and economic activities. Palm oil is an industrial crop that serves as a source of cooking oil, industrial oil, and biofuel. Given the potential for high profits, many forests and old plantations have been converted into palm oil plantations.

Previous research by Pratama and Susanti (2021) found that effective inventory control plays a crucial role in maintaining supply stability and controlling production costs in the plantation industry, particularly in managing fertilizers as one of the main production inputs. Similarly, Setiawan et al. (2022) found that efficient fertilizer inventory management can increase productivity while reducing production costs in agricultural companies. Other studies by Wirawan and Setyawan (2023) also highlighted that inventory control significantly

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influences operational efficiency, particularly in minimizing risks of overstocking or stockouts.

However, research by Yuliani and Kusuma (2023) contradicts these findings, revealing that without comprehensive strategic planning, inventory control alone is insufficient to achieve operational efficiency and business sustainability. Meanwhile, a study by Hartono et al. (2022) indicated that sustainability reports integrated with SDG strategies help enhance a company's image in the eyes of consumers and investors. On the other hand, research by Wibowo and Kurnia (2023) revealed that implementing sustainability reports often faces obstacles, especially due to a lack of resources and understanding of sustainability practices within companies.

Based on observations at CV. Trans Barokah Mandiri, inconsistent fertilizer availability hampers the planting process of palm oil seedlings, making it difficult for farmers to optimize planting schedules and maximize yields. Price fluctuations and ineffective inventory control also shrink profit margins, adding financial pressure on farmers. Furthermore, the absence of sustainability reports creates uncertainty among customers and investors, potentially harming the company's reputation.

The decline in palm oil seedling sales aligns with rising consumer awareness of sustainable farming practices, prompting farmers to switch to more environmentally friendly crops. The lack of training in fertilizer management and sustainability reporting hinders the effective implementation of the Sustainable Development Goals (SDGs). As a result, conventional farming practices that harm soil quality and natural resources continue to be used, ultimately reducing farmers' competitiveness in the market.

Based on the background and phenomena discussed above, the author is interested in conducting a study entitled "The Effect of Planning, Fertilizer Inventory Control, and Sustainability Reports on Palm Oil Seedling Sales at CV. Trans Barokah Mandiri."

LITERATURE REVIEW

Stakeholder Theory

Stakeholder theory is one of the most widely used grand theories as the foundation for sustainability report research. This theory explains that the existence of an organization is highly influenced by the support of groups or individuals who have a relationship with the organization (Freeman, 1984:31). One of the strategies companies use to maintain relationships with

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stakeholders is by disclosing sustainability reports. It is crucial for organizations to seek support from stakeholders because the survival of the organization depends on the support provided by these stakeholders. A sustainability report can serve as a medium for stakeholders, society, and the government to assess the extent of the company's efforts in addressing social and environmental issues.

Fertilizer Inventory Planning

Fertilizer inventory planning is an essential process in supply chain management aimed at ensuring the adequate availability of fertilizer to meet agricultural production needs. According to Gianesini and Pini (2020), this planning includes demand analysis and accurate forecasting to determine the required amount of fertilizer, enabling its efficient and sustainable use. In addition, Kumar and Sethi (2021) emphasize that the implementation of information technology and data analysis in fertilizer inventory planning is crucial for real-time monitoring and improving decision-making.

In fertilizer inventory planning, quantitative methods such as the Economic Order Quantity (EOQ) model are vital for ensuring efficiency. EOQ is a method used to calculate the optimal order quantity that minimizes total inventory costs, including ordering and storage costs. The EOQ formula is as follows. EOQ Formula (Economic Order Quantity):

$$EOQ = \sqrt{\frac{2DS}{H}}$$

Source: (Pakpahan & Sirait, 2022)

Explanation:

D = Annual demand (in units)

S = Ordering cost per order

H = Holding cost per unit per year

By applying the EOQ model, companies can calculate the optimal frequency and quantity of orders to minimize the costs incurred, thus achieving efficiency in fertilizer inventory planning.

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Fertilizer Inventory Control

Fertilizer inventory control is an essential process in supply chain management aimed at ensuring that fertilizer is available in the appropriate quantities at the required time. Inventory control involves regularly monitoring stock levels and determining the right order quantities to prevent shortages or excess stock that could disrupt the agricultural production process (Putra & Rahmawati, 2022). Effective inventory control not only ensures smooth operations but also helps reduce storage costs (Andriani & Setiawan, 2023). In fertilizer inventory control, calculating Net Requirements is crucial to ensure sufficient inventory to meet production needs. The Net Requirements formula considers fluctuations in fertilizer demand during specific periods by accounting for available inventory and scheduled orders. The formula is as follows:

Net Requirements= Gross Requirements (On Hand Inventory+Scheduled Receipts)

Source : (Kusuma Ningrat & Aristriyana, 2023)

Explanation:

- Gross Requirements refers to the total amount of materials needed for production.
- On-Hand Inventory is the quantity of inventory currently available.
- Scheduled Receipts are orders that are either in transit or already scheduled for delivery.

Sustainability Report

Law Number 11 of 2020 concerning Limited Liability Companies, Article 74, states that companies engaged in businesses related to natural resources are required to carry out social and environmental responsibilities. With this regulation, the National Center for Sustainability Reporting (NCSR) ensures that sustainability practices in Indonesia continue to improve. However, the number of companies in Indonesia that report their Sustainability Report still lags behind those in developed countries.

A sustainability report is a practice of monitoring, disclosing, and making the organization accountable for its performance in achieving sustainable development goals for both internal and external stakeholders (Aina & Sadikin, 2023). This report serves as evidence of the company's commitment to its social and environmental responsibilities, which can be

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assessed by interested parties who need the information. In measuring the Sustainability Report, the Sustainability Report Disclosure Index (SRDI) formula is used to assess how much information related to sustainability is disclosed in the report. This index functions as a disclosure measurement, showing the percentage or proportion of items revealed in the sustainability report. The formula is as follows:

$$\text{SRDI} = \frac{K}{N}$$

Source : (Octavia et al., 2022)

Explanation:

- SRDI = Sustainability Report Disclosure Index
- K = Number of disclosed items
- N = Total number of expected disclosure items

This formula provides a value ranging from 0 to 1, where a higher value indicates that the company discloses more information in accordance with the expected sustainability guidelines.

Sales

Sales refer to the activity or process where goods or services are transferred from the seller to the buyer in exchange for money or other equivalent value. In a business context, sales are one of the core functions related to the company's revenue generation and serve as a key indicator of success in distributing products to consumers. According to Kotler and Keller (2020), sales involve various marketing efforts to attract consumer interest and fulfill their needs through the products or services offered by the company. In managing fertilizer inventory planning, it is essential to understand its impact on the company's revenue. One way to evaluate sales performance is by calculating total revenue. The Total Revenue formula is used to determine the total income generated from fertilizer sales within a specific period. This revenue is calculated by multiplying the unit selling price by the number of units sold, which can be formulated as follows:

$$\text{Total } \textit{Revenue} = \textit{Price} \times \textit{Quantity}$$

Source : (Jojo & Zebua, 2023)

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Explanation:

- Price = The unit price of the product or service
- Quantity = The number of units sold

By understanding the relationship between the selling price and the quantity of fertilizer sold, companies can optimize their sales strategies while also evaluating the effectiveness of fertilizer inventory planning in supporting revenue targets.

RESEARCH METHODS

This study uses a quantitative descriptive approach to analyze the effects of fertilizer inventory planning, inventory control, and sustainability reports on palm oil seedling sales at CV. Trans Barokah Mandiri. The research, conducted from 2021 to 2023 at the company's main office in Banyuasin, South Sumatra, focuses on how these factors influence sales performance and operational efficiency. Data sources include primary data from interviews and company records, and secondary data from official reports and previous studies. The population consists of fertilizer inventory records from 2021 to 2023, with 36 monthly data points as the sample. Data collection was done through documentation analysis of sales, inventory, and sustainability reports. Descriptive statistical analysis, along with classical assumption tests (normality, multicollinearity, and heteroscedasticity), was applied to validate the model. Multiple linear regression was used to assess the variables' effects on sales, with t-tests and F-tests for hypothesis testing. The coefficient of determination (R^2) measured the explanatory power of the model, and the analysis was performed using SPSS version 26.

RESULTS OF RESEARCH AND DISCUSSION

The Effect of Fertilizer Inventory Planning on Palm Oil Seedling Sales

Based on research conducted at CV. Trans Barokah Mandiri, the results of the partial t-test showed that the t-value of 3.203 > t-table of 1.693, with a significance value (Sig.) of 0.003. Since the Sig. value < 0.05, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This indicates that the fertilizer inventory planning variable has a significant positive effect on palm oil seedling sales. The findings highlight the importance of proper planning in supporting the company's operational success. Good planning ensures optimal fertilizer availability, enabling smooth seedling production without disruptions.

Moreover, structured planning reflects efficient resource use and demonstrates the company's commitment to sustainability, which can enhance stakeholder confidence, including customers and business partners. With accurate planning, the company can anticipate market needs and adjust its operational strategies to meet sales targets more effectively. However, continuous evaluation of planning quality is necessary to remain relevant to market dynamics and operational needs.

These results are consistent with research by Putri & Santoso (2021), which found that effective stock management and marketing planning significantly influence agribusiness product sales, including palm oil seedlings. Similarly, Rahman & Wijaya (2023) revealed that well-structured planning in fertilizer and seed distribution improves competitiveness and meets market demand more effectively. Additionally, Lestari et al. (2022) emphasized that successful seedling sales are heavily influenced by data-driven planning strategies, including market demand projections and risk management.

The Effect of Palm Oil Seedling Control on Palm Oil Seedling Sales

Based on research conducted at CV. Trans Barokah Mandiri, the results of the partial t-test showed that the t-value of 1.333 < t-table of 1.693, with a significance value (Sig.) of 0.192. Since the Sig. value > 0.05, the null hypothesis (H_0) is accepted, and the alternative hypothesis (H_2) is rejected. This means that the palm oil seedling control variable does not have a significant positive effect on palm oil seedling sales. These findings suggest that the control of seedling inventory has a limited contribution to the company's sales performance. This implies that although proper management of this variable can enhance operational efficiency and effectiveness, it does not directly influence the achievement of sales targets. Therefore, the company should focus on developing strategies related to this variable, including process optimization, continuous monitoring, and proper resource allocation to ensure a positive and sustainable impact on overall business performance.

This result aligns with the findings of Suryanto & Amelia (2022), who stated that inventory control does not significantly affect sales performance, especially if other variables such as marketing strategies and product innovation are not adequately addressed. Similarly, research by Lestari & Hidayat (2023) revealed that sales success is more influenced by external factors, such as market conditions and consumer needs, rather than inventory control

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alone. This indicates that while inventory control is essential, it cannot independently drive sales outcomes without the support of other business strategies.

The Effect of Sustainability Report on Palm Oil Seedling Sales

Based on research conducted at CV. Trans Barokah Mandiri, the t-test results show that the t-value of 4.865 > t-table of 1.693, with a significance value (Sig.) of 0.000. Since the Sig. value < 0.05, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_3) is accepted. This means that the sustainability report variable has a significant positive effect on palm oil seedling sales. The sustainability report plays a crucial role in improving company performance, particularly in managing social, environmental, and economic aspects sustainably. In the context of CV. Trans Barokah Mandiri, the sustainability report not only serves as a tool to monitor the company's environmental impact but also enhances transparency and accountability. By ensuring that business processes are conducted sustainably, the company can build trust with customers and business partners, ultimately contributing to long-term increases in palm oil seedling sales. Therefore, integrating sustainability reporting as a core business strategy becomes essential for fostering sustainable growth and maintaining competitiveness in the market.

This finding aligns with research by Andriani (2021), which revealed that sustainability reports significantly influence company performance, including increased sales of palm oil seedlings. Such reports help improve transparency and customer trust, leading to market expansion and higher sales volumes. Additionally, research by Bambang (2023) shows that sustainable practices in managing palm oil operations contribute to efficiency and effectiveness, thereby enhancing sales performance for products like palm oil seedlings.

The Effect of Fertilizer Inventory Planning, Palm Oil Seedling Control, and Sustainability Report on Palm Oil Seedling Sales

Based on research conducted at CV. Trans Barokah Mandiri, the F-test results show an F-value of 11.186 > F-table of 2.67, with a significance value (Sig.) of 0.001. Since the Sig. value < 0.05, the null hypothesis (H_0) is rejected, and the fourth hypothesis (H_4) is accepted. This means that fertilizer inventory planning, seedling control, and sustainability reports collectively or simultaneously have a significant effect on palm oil seedling sales. The

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results indicate that these three variables play an important role in determining the success of palm oil seedling sales. Effective planning ensures product availability aligns with market demand, while proper fertilizer inventory control optimizes operational efficiency and reduces the risks of shortages or overstocking. Additionally, sustainability reports contribute to building a positive company image, increasing customer trust, and expanding market reach. The synergy between these variables allows the company to develop more effective and sustainable business strategies, thereby enhancing competitiveness and driving optimal sales growth.

This finding aligns with research by Siregar and Dharma (2023), which revealed that effective fertilizer inventory control plays a critical role in improving operational efficiency in palm oil plantations. By applying appropriate control methods, companies can ensure fertilizer availability according to demand, minimize storage costs, and prevent shortages or excess stock, ultimately leading to increased seedling sales. Furthermore, research by Tangkerei et al. (2024) demonstrated that the application of the Economic Order Quantity (EOQ) method in fertilizer inventory management minimizes total inventory costs and ensures optimal fertilizer availability. This efficient inventory management contributes to improved production quality and enhanced sales performance for palm oil seedlings.

CONCLUSIONS AND ADVICE

Conclusions

Based on the results of the multiple linear regression analysis conducted in this study, titled "The Effect of Fertilizer Inventory Planning, Seedling Control, and Sustainability Report on Palm Oil Seedling Sales at CV. Trans Barokah Mandiri", the following conclusions can be drawn:

1. The results of Hypothesis 1 indicate that the fertilizer inventory planning variable has a positive and significant effect on palm oil seedling sales.
2. The results of Hypothesis 2 show that the seedling control variable has no significant effect on palm oil seedling sales.
3. The results of Hypothesis 3 reveal that the sustainability report variable has a positive and significant effect on palm oil seedling sales.
4. The results of Hypothesis 4 demonstrate that fertilizer inventory planning, seedling

control, and sustainability reports collectively or simultaneously have a positive and significant effect on palm oil seedling sales.

Suggestions

The company should focus more on external factors, such as market fluctuations and government policies, in its strategic planning to improve adaptability to business environment changes. Integrating relevant variables like marketing strategies and distribution efficiency could have a greater impact on sales performance. More complex analytical methods, such as non-linear models, should also be considered for deeper insights. Additionally, incorporating qualitative perspectives through interviews with management and customers can help better understand market needs and enhance the effectiveness of operational strategies.

For future researchers, it is recommended to broaden the research scope by including external factors such as market trends and environmental influences. Expanding variables to cover aspects like product innovation and customer relationships will provide a more comprehensive analysis. Using advanced analytical approaches, such as non-linear or mixed methods, will offer deeper insights. In-depth interviews with stakeholders are also suggested to gain richer and more relevant perspectives on the relationships between variables.

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