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Proposed Marketing Strategy for the Sustainability of Biomass Producer Companies (PT XYZ Case Study)

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ABSTRACT

PT XYZ is a biomass production company established in 2021, dedicated to sustainable biomass solutions, positioning itself at the forefront of an industry with significant growth potential given the global urgency for clean energy solutions. Despite operating in a high-growth potential sector, PT XYZ experienced stagnation and even a decline in product sales in 2023. To understand the root causes and formulate effective solutions, this study employs various analytical methods, including the Internal Factor Evaluation (IFE) Matrix and the External Factor Evaluation (EFE) Matrix to assess the internal and external factors affecting the company's performance. The Internal-External (IE) Matrix and SWOT Matrix were then used to match these factors and develop various strategic alternatives. Finally, the Quantitative Strategic Planning Matrix (QSPM) was used to objectively evaluate the strategic alternatives and generate optimal marketing strategy recommendations for PT XYZ. Based on the analysis using the IFE and EFE matrices, PT XYZ is positioned in the grow and build quadrant with an IFE score of 3.29 and an EFE score of 3.20. Through SWOT analysis, seven alternative marketing strategies were identified. Subsequently, QSPM analysis prioritized these strategies, with obtaining SVLK certification as the top priority, followed by increasing awareness and branding, developing innovation and product diversification, expanding into new markets, enhancing human resources in sales and marketing, increasing production capacity, and improving education and awareness about renewable energy.

Introduction

In the last decade, the energy sector has undergone a significant transition towards cleaner and more sustainable energy use. The government, based on the national energy policy (PP number 79 of 2014), has set an ambitious target for the New and Renewable Energy (NRE) mix to reach 23% of the total national energy by 2025 (MEMR, 2020) and

reduce emissions by 29% by 2030 by the National Contribution (David, 2011). The emission reduction target is focused on 5 sectors, of which the 2 largest sectors are forests at 17.2% and energy at 11% (the energy sector contributes 314 million tons of CO2) (Alamanda, Anggadwita, Raynaldi, Novani, & Kijima, 2019).

Indonesia has shown a strong commitment to developing renewable energy, especially through the use of biomass as an alternative energy source. According to the Presidential Regulation of the Republic of Indonesia No. 5 of 2006 concerning Energy, biomass is included in the category of renewable energy sources that can be sustainable if managed properly (Satta, Parola, Vitellaro, & Morchio, 2021). In Indonesia, the potential of biomass for energy generation includes wood waste (sawdust, scraps, chips, bark, firewood plantations, forest residues), agricultural waste (rice husks, straw, plantation crop trimmings, corn cobs), grasses, animal manure, and other materials. Data from the Directorate General of New, Renewable Energy, and Energy Conservation (EBTKE) highlights the extraordinary potential of biomass/bioenergy in Indonesia, which will reach 57 GW in 2023 (Directorate General of EBTKE, 2022) (Kishnani & Sharma, 2024).

PT XYZ is a biomass production company that was established in 2021 and is dedicated to sustainable biomass solutions so it is at the forefront of the industry with the potential to grow rapidly given the global urgency for clean energy solutions (Suhartanto, 2024). PT XYZ has its head office in Jakarta and has 2 biomass production facilities operating in the West Java region, namely in the Subang and Karawang areas. PT XYZ's expertise lies in the production of biomass pellets through the use of rice husk waste and wood waste.

Table 1
Previous research

It	Title and Author	Object	Method	Findings	Linkages
1.	(Budianto et al., 2023) Analysis of the Selection of Marketing Strategies Using SWOT and QSPM Methods at PT. XYZ	PT XYZ (Industrial Refrigeration System)	SWOT - QSPM	From the research conducted, an IFE score of 2.8792 and an EFE score of 2.739 for PT. XYZ. By referring to the IFE and EFE scores, the position of PT. XYZ belongs to V (Hold and Maintain) cells. SWOT and QSPM analysis shows that	It is related to the use of IFE and EFE matrices as the initial identification stage, the use of IE and SWOT matrices in the process of formulating marketing strategies, and the use of QSPM in strategic decision-making.

				the main strategy that needs to be implemented is to improve the quality of sales human resources by achieving a TAS value of 1.4177.	
2.	(Kuc & Wackowsk, 2021)*Applying QSPM Matrix for Business Strategy Analysis: A Case of Hung Hau Corporation*	Hung Hau Corporation (Industries focusing on Agriculture, Education, and Distribution sectors)	SWOT - QSPM	Based on the total attractive points of the strategies that have been obtained, by the development orientation and long-term goals, the company is advised to prioritize the selection of strategies as follows: (1) Market development strategy (2) Market penetration strategy (3) Company restructuring, and (4) Growth through vertical integration.	The journal is related to the thesis proposal in the use of the SWOT matrix to determine the SO, ST, WO, and WT strategies, which are analyzed through QSPM to produce conclusions.

Several previous studies have used the SWOT-QSPM approach and applied it in various contexts. The difference in the research conducted by the researcher from the previous research is in the research object where this research specifically focuses on the formulation of the strategy of PT XYZ, a biomass production company that was newly established in 2021 (Santoso et al., 2024).

This research was conducted with the following objectives:

1. Identify what are the strengths, weaknesses, opportunities, and threats in PT XYZ
2. Formulate marketing strategies that can be carried out based on PT XYZ's SWOT analysis

Method

This study applies a descriptive approach without conducting a hypothesis test, which is a research method used to explain and illustrate social phenomena through various variables that are related to each other.

Research Location and Schedule

This research was conducted at PT XYZ, one of the industries engaged in biomass production, which is located at Jalan RS Fatmawati No.39, South Jakarta, DKI Jakarta. The research lasted for 4 months from March 2024 to June 2024

Determination of Respondents

In the stage of determining respondents for this study, the researcher will contact the decision-makers in the relevant companies. This action is intended to increase the validity of the data as well as ensure its direct implications within the company. The following is a list of respondents who will be contacted for this study:

1. Respondent 1: Founder and commissioner of PT XYZ
2. Respondent 2: President Director of PT XYZ
3. Respondent 3: Director of Operations of PT XYZ

By involving respondents representing various levels and functions within the company, this research is expected to produce comprehensive and relevant insights in formulating marketing strategy proposals for PT XYZ's sustainability.

Data Analysis Techniques

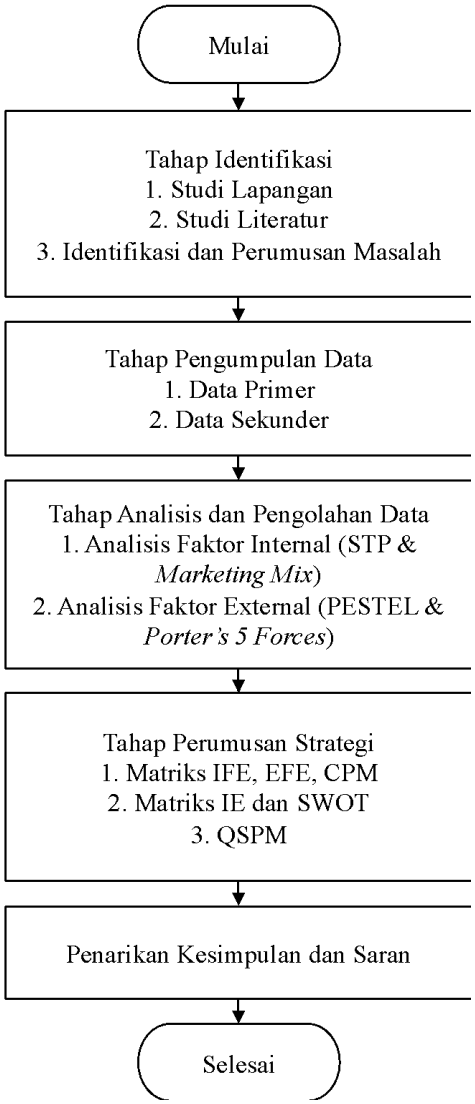

Figure 1 Flowchart of Research Methodology

Data Collection Stage

This stage is carried out to gain a thorough understanding of the actual situation at PT XYZ. The data needed is divided into two categories, namely:

1. Primary Data

Primary data is obtained through interviews with related parties in the company. In addition, the primary data collection process is also by conducting surveys or direct observations in the field.

2. Secondary Data

Secondary data is obtained from existing sources such as financial reports, market data, and industry information that have been published. Secondary data helps complement the information obtained from primary data.

Data Analysis and Processing Stage

This stage is carried out to analyze and process the data that has been compiled previously. This stage is divided into two parts of the analysis, namely:

1. Internal Factor Analysis

Internal factor analysis involves the use of STP (Segmentation, Targeting, Positioning) and 4P Marketing Mix which consist of Product (product or service offered), Price (price charged), Place (distribution place), and Promotion (promotion strategy).

2. External Factor Analysis

External factor analysis includes PESTEL and Porter's 5 Forces. PESTEL evaluates the political, economic, social, technological, environmental, and legal factors that affect the business. Porter's 5 Forces analyze five forces that affect the competitiveness of the industry: the level of competition between companies, the power of suppliers in determining price and quality, the power of consumers in choosing products or services, the threat of newcomers entering the market, and the threat of substitute products or services.

Results and Discussion

PT XYZ was established with the aim of contributing to the new and renewable energy sector by utilizing the potential of waste to produce biomass that has added value (PUTRA, 2024). As a biomass production company, PT XYZ was established on January 18, 2021, and is a subsidiary of the parent company engaged in providing maintenance and operation services for the oil and gas industry. With a strong background in the energy industry, PT XYZ leverages its expertise to support the transition to cleaner and more sustainable energy.

Internal Review of the Company

1. Segmentation

Based on the results of geographical segmentation, PT XYZ's customers are spread across several districts and cities such as Karawang, Subang, Bandung, Purwakarta, Indramayu, Serang, and Tangerang. In addition to these geographical segmentations, PT XYZ also divides the market based on several types of industries as detailed in Table 4.1 which includes:

1) Energy Generation Industry

   This segment consists of large companies such as PT PLN that use biomass for power generation as part of their co-firing initiatives.

2) Manufacturing Industry

   Companies that use biomass in their production processes, such as industries in the agriculture and livestock sectors, textiles, ceramics, cement, and other industries that have a heating process in their operations.

3) Food Processing MSMEs

   Micro, Small, and Medium Enterprises (MSMEs) in the food processing sector use biomass as a fuel source for daily operations.

4) Biomass Trader

   Customers who act as intermediaries or biomass traders who buy products from PT XYZ to be able to resell to various industries and other customers.

Table 2
PT XYZ Customer Segmentation by Industry Type

Industry Type	Sum	Percentage
Generation Industry	2	12%
Manufacturing Industry	8	47%
Trader	4	23%
MSMEs	3	18%

Targeting

PT XYZ strategically targets *the niche market* by focusing on customers who have specific needs for biomass. In an industry that is increasingly aware of the importance of sustainable energy, PT XYZ targets certain segments that require biomass for different purposes. PT XYZ's main target is PT PLN and other energy generation companies that have a large and sustainable need for biomass to support a *co-firing* program that replaces part of the use of coal with biomass. In addition, PT XYZ also targets large and medium-sized manufacturing industries that require biomass in their production processes. In this regard, PT XYZ offers biomass solutions that are not only efficient but also help these industries meet increasingly stringent environmental regulations (PRAMONO, 2024).

Not only reaching large companies, but PT XYZ also reaches food processing MSMEs that use biomass as the main fuel in their operations. This segmentation allows PT XYZ to expand its market reach and provide more efficient and economical energy solutions for small and medium-sized businesses. In addition, PT XYZ also targets biomass traders who act as intermediaries between producers and various end customers. These traders have an extensive network and the ability to distribute PT XYZ's biomass products to various industrial sectors and other customers, thereby expanding the market and increasing sales volumes.

With this targeted targeting strategy, PT XYZ seeks to meet the unique needs of each different market segment, ensuring that each biomass solution offered is not only relevant but also provides significant added value for customers.

Positioning

PT XYZ positions itself as a provider of quality and sustainable biomass solutions. PT XYZ emphasizes the production of quality biomass pellets that can be used for a variety of applications. This focus on quality appeals to customers looking for reliable and efficient alternatives to fossil fuels.

By ensuring that the pellets produced comply with regulations or industry usage standards, PT XYZ can build a reputation as a provider of quality and reliable energy solutions. In addition, PT XYZ also utilizes wood waste and rice husk waste as raw materials, which is in line with the global trend of increasingly prioritizing renewable energy sources and environmental conservation. This commitment shows that PT XYZ is not only focused on profitability but also on environmental responsibility.

Marketing Mix

1. Product

PT XYZ offers two types of biomass products, namely rice husk pellets and wood pellets. To ensure product quality and excellence, PT XYZ has conducted a series of laboratory tests on both types of pellets. Table 4.2 is a comparison of the quality of PT XYZ rice husk pellets with SNI 9125:2022.

Table 3
Comparison Table of Quality of PT XYZ Rice Husk Pellets with SNI 9125:2022

Parameters	SNI 9125:2022	Pellet Quality of PT XYZ
Gross Calorific Value (kcal/kg)	> 3,200	3.576
Ash Content (%)	< 20	17,07
Moisture Content (%)	< 10	6,3
Volatile Substance Content (%)	> 60	62,29
Fixed Carbon Content (%)	> 13	14,34
Chlorine Content (%)	< 0.17	0,14
Potassium content (K20) (%)	< 3	1,84
Silica (SiO2) Content (%)	< 93	90,53
Sodium (Na2O) (%)	< 2.6	0,46
Total Sulfur Content (%)	< 0.14	0,04
Ash Fusion Temperature (Degree C)	> 1,300	> 1,500
Hardgroove Grindabillity Index	> 25	31

The test results show that PT XYZ's rice husk pellet products not only meet the standards but also exceed the standards set by SNI 9125:2022. The high gross calorific value, low ash, and moisture content, as well as the content of other substances that meet the standards, prove that PT XYZ rice husk pellets are quality products.

2. Price

PT XYZ's pricing strategy is competitive, taking into account production costs, market prices, and product-added value. The company strives to offer attractive prices without sacrificing quality, in order to attract and retain customers. The price of rice husk pellets offered by PT XYZ ranges from IDR 1,100,000 – to IDR 1,300,000 while wood pellets range from IDR 1,500,000 to IDR 1,800,000. The prices offered are competitive in the market, providing significant value for customers looking for efficient and environmentally friendly energy solutions.

3. Place

PT XYZ's products are distributed from two main production facilities located in Subang and Karawang, West Java. The production facility in Subang focuses on biomass pellets from rice husk waste, while the facility in Karawang processes wood waste into wood pellets. This strategic location allows PT XYZ to reach various customers in the industrial sector and MSMEs in the West Java region and its surroundings efficiently.

4. Promotion

PT XYZ uses a marketing approach that focuses on B2B promotion, targeting energy generation companies and other industries that need biomass for energy generation or heating processes. In addition, PT XYZ actively participates in industry exhibitions and conferences related to clean and sustainable energy to improve its business network.

External Review of the Company

1. Politics

Government regulations that support renewable energy, such as the New and Renewable Energy (NRE) mix target of 23% by 2025, are very beneficial for PT XYZ. This policy encourages the demand for biomass products, which is the main focus of PT XYZ. Strict environmental regulations also ensure that biomass products meet certain standards, which can affect production costs but also improve the quality of PT XYZ products. In addition, the Government of Indonesia has implemented various policies to support the biomass industry, for example, by launching a coal-fired power plant co-firing program that encourages the use of biomass along with coal for power generation.

PT XYZ's relationship with government agencies is quite good, especially considering the importance of the company's role in supporting renewable energy policies. PT XYZ actively participates in government programs and works closely with relevant agencies to ensure regulatory compliance. For example, PT XYZ participated as a draftsman in the preparation of national standards for the use of biomass for power plants in Indonesia.

2. Economic

Stable economic conditions are likely to increase the demand for biomass products as the industrial and energy sectors are more likely to invest in renewable energy solutions. On the contrary, in adverse economic conditions, investment in alternative energy could decrease, which will negatively impact the sales of PT XYZ.

On the other hand, fluctuations in the price of raw materials such as wood waste and rice husk waste can affect PT XYZ's production costs. If the price of raw materials rises, production costs will increase, which may force companies to increase the selling price of their products. Conversely, a decrease in the price of raw materials can help PT XYZ offer more competitive prices. In addition, inflation may increase PT XYZ's operating costs, including raw materials, labor, and transportation costs. This can lead to an increase in selling prices that may reduce consumer purchasing power. On the other hand, deflation can suppress the selling price of products, which can reduce *profit margins* if production costs remain high.

3. Social

Social trends that support sustainability and the use of clean energy are very positive for PT XYZ. Increasing public awareness of the environmental impact of fossil fuels is encouraging consumers to switch to more environmentally friendly biomass products. Demographic changes, such as an increase in the environmentally conscious population,

as well as lifestyle changes that favor more green products, can help increase the demand for PT XYZ biomass products. Currently, PT XYZ still feels that many people still do not know more details about the use of biomass as an energy source. This can be because biomass energy solutions are still relatively new to some people.

4. Technological

Technological advances can improve the production efficiency and product quality of PT XYZ. By adopting new and precise technologies, companies can reduce production costs, increase output, and produce products with more consistent quality. PT XYZ continues to strive to adopt the latest technology in its operations such as the use of more efficient and environmentally friendly production equipment. This helps the company to remain competitive and meet high-quality standards. In addition, PT XYZ also invests in research and development to create product innovations and efficient production processes. This focus helps the company stay at the forefront of the biomass industry and continuously improve the quality and efficiency of its products.

5. Environmental

A strict environmental policy ensures that PT XYZ must adhere to certain standards in its production process, this can increase costs but also ensure that PT XYZ's products are environmentally friendly. Compliance with these regulations helps to improve the company's reputation as a responsible manufacturer.

Bargaining Power of Suppliers

PT XYZ cooperates with several major suppliers who provide raw materials such as rice husk waste and wood waste and has established cooperation contracts to maintain supply stability. Although suppliers can increase prices or lower the quality of raw materials, PT XYZ is not very dependent on a specific supplier due to the existence of alternative suppliers in the market. Dependence on certain suppliers can be minimized by looking for alternative suppliers that offer quality and competitive prices. However, potential obstacles remain, especially those caused by unfavorable natural conditions such as crop failure for rice husk waste. The supplier's negotiating power against PT XYZ is not very strong because PT XYZ has several supplier options and can switch to others if needed.

Bargaining Power of Buyers

PT XYZ's main customers include the energy generation industry such as PT PLN, the manufacturing industry, MSMEs in the food processing sector, and biomass traders. Although there are several other suppliers in the market, PT XYZ has built a reputation for quality and environmentally friendly products, providing greater bargaining power to its customers. Customers may be sensitive to price changes, but the quality, and sustainability of the product as well as the supply capacity of PT XYZ are decisive factors.

Threat of Substitutes

There are substitute products or services that can replace PT XYZ's biomass products such as alternative energy sources such as diesel or wind energy. Customers can switch to replacement products, but it requires greater initial investment and technology

adaptation. New technologies that threaten the position of biomass products in the market may emerge, but PT XYZ can overcome them by continuing to innovate and invest in research and development.

Rivalry Among Existing Competitors

The biomass industry has several major competitors operating with varying market shares. Currently, PT XYZ has two main competitors operating around its operating area, namely PT ACE and PT GEN. However, this competitor only produces one type of biomass, namely wood pellets, and has a production capacity that is not larger than PT XYZ. With a focus on the production of two types of biomass (rice husk pellets and wood pellets), PT XYZ has the advantage of product diversification that its main competitors do not have.

Strengths

1. Quality Products

   PT XYZ's rice husk pellet and wood pellet products have gone through a series of laboratory tests that prove that they not only meet but exceed the standards set by SNI (Indonesian National Standard). This provides a competitive advantage as customers can be assured of better product quality and efficiency compared to products from competitors.
2. Diversification of Biomass Products

   PT XYZ offers two main types of products: rice husk pellets and wood pellets. This diversification allows companies to meet the needs of various market segments, from large industries to MSMEs, and reduce business risks that may arise from relying on just one type of product.
3. Strategic Location of Production Facilities

   PT XYZ's production facilities are located in Subang and Karawang, West Java, which are close to the source of raw materials and major markets. This location facilitates distribution access and reduces logistics costs, thereby increasing the company's operational efficiency.
4. Good Relations with Government Agencies

   PT XYZ has good relationships with various government agencies, especially those related to renewable energy regulations. Active participation in government programs and the preparation of national standards helps companies stay compliant with regulations and get the necessary support for their operations.
5. Competitive Pricing

   PT XYZ implements a competitive pricing strategy by considering production costs, market prices, and product-added value. The prices offered are attractive to customers without sacrificing quality, thus helping the company in attracting and retaining customers.

Weaknesses

1. Limited Human Resources in the Field of Sales & Marketing

   PT XYZ is facing a shortage of experts in the field of sales & marketing, which affects the company's ability to expand its market reach and increase sales volume.

Some employees also concurrently hold positions due to limited human resources, which can reduce operational efficiency.

2. Haven't Obtained SVLK Permits

   The SVLK (Timber Legality Verification System) permit is an important certification to increase the credibility of the product in the market. Without this permit, PT XYZ may face difficulties in selling products to customers who are more concerned about the legality and sustainability of raw materials.

3. Limited Production Capacity

   The current production capacity, although it is large enough, is still not enough to meet the increasing demand. This can be an obstacle to the company's growth if it is not immediately overcome by increasing production capacity. Some prospective buyers also often consider PT XYZ's production capacity before making a purchase decision to ensure supply sustainability.

4. Lack of Education and Promotion Efforts on the Benefits of Biomass

   Many people and industry players still do not fully understand the benefits and use of biomass as an alternative energy source. This shows that the education and promotion efforts of PT XYZ are still ineffective, causing the market for biomass products to be limited. PT XYZ needs to improve communication and education strategies to expand the understanding and acceptance of biomass products in society and industry.

External Environmental Analysis of PT XYZ

In addition to analyzing the company's internal factors, analysis of external factors is also needed in the strategy formulation process. This is a step to be able to identify external opportunities and threats for the company in competition.

Opportunities

1. Government Regulatory Support for Renewable Energy

   The Indonesian government has set a target for the New and Renewable Energy (NRE) mix of 23% by 2025. This policy creates a great opportunity for PT XYZ to increase sales of its products as part of the clean and renewable energy initiatives driven by the government.

2. Increasing Awareness of Clean and Environmentally Friendly Energy

   The global trend of increasingly prioritizing sustainability and clean energy opens up opportunities for PT XYZ to attract customers who care about environmental impact. This increased awareness is driving the demand for biomass products as an alternative to fossil fuels.

3. New Technologies that Improve Production Efficiency

   The adoption of new technologies in the production process can increase efficiency, reduce costs, and improve product quality. PT XYZ can take advantage of technological advancements to stay competitive and meet high-quality standards.

4. Increasing Demand from Industry and MSMEs

The industrial sector and MSMEs that continue to grow need efficient and environmentally friendly energy sources. PT XYZ can take advantage of the increased demand from these sectors by offering appropriate biomass solutions.

Threats

1. Raw Material Price Fluctuations

   The price of raw materials such as rice husk waste and wood waste can fluctuate depending on market conditions and seasons. The increase in raw material prices can increase production costs and affect the profitability of the company.
2. Potential Entry of New Competitors

   Despite significant barriers to entry, there is still a possibility of the emergence of new competitors that could reduce PT XYZ's market share. New competitors can take advantage of more advanced innovations or technologies that can attract customers.
3. The Existence of Other Energy Substitutions

   Alternative energy sources such as solar and wind power can be a substitute for biomass products. If these alternative energy technologies become cheaper and more efficient, the demand for biomass could decline.
4. Increasingly Stringent Regulations

   Increasingly stringent government regulations related to the environment and renewable energy can increase PT XYZ's compliance and operational costs. While these regulations can also be an opportunity, companies must ensure that they continue to comply with applicable regulations to avoid potential legal issues.

Strategy Formulation Stage

The formulation of the strategy can be carried out after a thorough analysis of the company's external and internal factors has been completed. This process involves three main stages, namely the input stage, matching stage, and decision stage.

Internal Factor Evaluation (IFE) Matrix

The IFE Matrix is an analytical tool used to evaluate a company's internal strengths and weaknesses that aims to help companies understand which areas need improvement and which areas can be the basis for a competitive strategy. Based on the results of the calculation of internal weights (appendix 3) and the determination of *ratings* against internal factors (appendix 5), it was found that the weighted score results as seen in **Table 4** of PT XYZ show the main strength in product diversification with the highest score of 0.51, which indicates the company's ability to offer a wide variety of biomass products that are attractive to the market. Product quality (0.47) and competitive price (0.39) are also significant advantages that support the company's competitiveness. Strategic location (0.32) and good relations with government agencies (0.25) provide operational benefits although they still need to be improved. On the weak side, the lack of SVLK permits (0.43) and the limitation of human resources in the field of sales and marketing (0.35) are the main concerns that must be addressed immediately. In addition, the lack of education and promotion efforts on the benefits of biomass (0.32) and limited production capacity (0.26) indicates the need for market education and improvement of production facilities.

Table 4
Internal Factor Score Calculation

It	Internal Factors	Rating	Weight	Score
Strength				
1	Product Quality	3,67	0,13	0,47
2	Product diversification	4,00	0,13	0,51
3	Strategic location	3,33	0,10	0,32
4	Good relations with government agencies	2,33	0,11	0,25
5	Competitive price	3,67	0,11	0,39
Weakness				
1	HR in the field of sales & marketing limited	3,00	0,12	0,35
2	There is no SVLK permit yet	3,33	0,13	0,43
3	Limited capacity	3,00	0,09	0,26
4	Lack of education and promotion efforts regarding the benefits of biomass	3,00	0,11	0,32
	Total			**3,29**

External Factor Evaluation (EFE) Matrix

The EFE Matrix is an analytical tool used to evaluate external opportunities and threats faced by companies that aim to help companies identify and evaluate external factors that can affect business performance and strategy. Based on **Table 5**, PT XYZ has a great opportunity from increasing demand from industry and MSMEs with the highest score of 0.52 and increased awareness of the use of clean energy with a score of 0.46, which supports the potential growth of the market. Government regulatory support for renewable energy (0.42) and new technologies that improve production efficiency (0.38) also strengthened the company's position in the biomass energy market. However, the threat of increasingly stringent regulations (0.47) and fluctuations in raw material prices (0.36) can affect the company's operational stability. The potential entry of new competitors (0.33) and the existence of other energy substitutions (0.26) require PT XYZ to continue to innovate and strengthen its marketing strategy to maintain its competitiveness in this dynamic industry.

Table 5
External Factor Score Calculation

It	External Factors	Rating	Weight	Score

Opportunity				
1	Government regulatory support for NRE	3,0	0,14	0,42
2	Increased awareness of the use of clean energy	3,0	0,15	0,46
3	New technologies that can improve production efficiency	3,3	0,12	0,38
4	Increased demand from industry and MSMEs	3,7	0,14	0,52
Threat				
1	Fluctuations in raw material prices	2,3	0,15	0,36
2	Potential entry of new competitors	3,7	0,09	0,33
3	The existence of other energy substitutions	3,3	0,08	0,26
4	Increasingly stringent regulations	3,7	0,13	0,47
	Total			3,20

Competitive Profile Matrix (CPM)

The Competitive Profile Matrix or known as CPM is a strategy analysis tool used to compare the relative strengths and weaknesses of a company against its main competitors in various key factors that determine success in the industry. In this study, CPM analysis was carried out by observing companies and products from PT XYZ's competitors. Two main competitors of PT XYZ were chosen, namely PT ACE and PT GEN, which are also biomass production companies. Based on the *focus group discussion* with the three predetermined speakers or respondents, it was agreed that the determinants of success selected for this CPM analysis include: (1) Product quality, (2) Competitive product prices, (3) Diversification of product types, (4) Company production capacity and (5) SVLK Licensing. The CPM analysis of PT XYZ's competitors is carried out by first finding out the quality of competitors' products by purchasing their products and conducting laboratory tests to determine the quality level. In addition, PT XYZ also conducts a deeper investigation of its competitors by collecting information from various sources related to business practices and the market performance of competitors.

Table 6
Competitive Profile Matrix PT XYZ

It	Success Factors	Weight	PT XYZ		PT ACE		PT GEN	
			Rating	Score	Rating	Score	Rating	Score
1	Product Quality	0,3	3,7	0,92	3,3	0,83	3,0	0,75
2	Product Price	0,2	4,0	0,75	3,7	0,69	4,0	0,75
3	Product Diversification	0,2	3,0	0,56	1,0	0,19	1,0	0,19
4	Production Capacity	0,1	3,7	0,53	3,7	0,53	2,0	0,29

5	SVLK Licensing	0,2	1,0	0,23	4,0	0,92	1,0	0,23
Total Score			2,99		3,16		2,21	

Based on the CPM analysis in Table 6, PT ACE has the highest total score of 3.16, indicating that overall they have a stronger position in the industry than PT XYZ and PT GEN. PT XYZ has a total score of 2.99, which indicates that they have some significant strengths, especially in product quality and diversification, but need to improve SVLK licensing to be more competitive. PT GEN has the lowest overall score of 2.21, indicating that they have more areas to improve, especially in production capacity and product diversification.

To increase credibility and market access, PT XYZ received a proposal to obtain an SVLK permit because the majority of prospective buyers required this. Marketing campaigns to raise awareness and branding were also approved, with greater allocation of funds and resources to improve the company's image. The development of innovation and product diversification is accepted on the condition that in-depth research is carried out first, considering the offer of cooperation with new biomass raw material suppliers. The market expansion strategy into new regions was accepted, mainly due to supply demand in Central Java and East Java, but still required further feasibility studies. Proposals to increase human resources in the field of sales and marketing were also accepted with plans to recruit new experts to overcome the heavy workload. The increase in production capacity will be implemented in Q1 2025 after the product diversification and market expansion plans are more mature. Finally, an education and public awareness campaign on renewable energy was also approved, with a plan to study an educational campaign and coordinate with the parent company to take advantage of new markets. Overall, PT XYZ's management has shown a commitment to implementing these strategies to improve business competitiveness and sustainability.

Conclusion

The conclusion of this study shows that the internal factors that are the strengths of PT XYZ include product quality, product diversification, strategic location, good relations with government agencies, and competitive prices. On the other hand, PT XYZ's weaknesses include limited human resources in the field of sales and marketing, the absence of SVLK permits, limited production capacity, and a lack of education and promotion efforts regarding the benefits of biomass. External factors that are opportunities for PT XYZ include government regulatory support for the use of new and renewable energy (NRE), increasing public awareness of clean energy, the existence of new technologies to improve production efficiency, and increasing demand from industry and MSMEs. However, the threats faced include fluctuations in raw material prices, the potential entry of new competitors, other energy substitutions, and increasingly stringent regulations.

Based on the analysis of internal and external factors of the company using the SWOT matrix, this study identifies seven alternative marketing strategies that can be applied by PT XYZ, namely market expansion to new regions, increasing awareness and branding through marketing campaigns, increasing human resources in the field of sales and marketing, obtaining SVLK licenses to increase credibility and market access, innovation development and product diversification, increasing production capacity to face the entry of competitors, as well as increasing public education and awareness of renewable energy.

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