ABSTRACT: Biomass is a renewable alternative fuel source that is more environmentally friendly than other fuels. Currently PT ABC has a biomass plant that produces wood chips and wood pellets in the West Java region. The purpose of this study is to analyse the business strategy and funding needed by PT ABC to enter the biomass industry in West Java. The research method used is a combination of descriptive and case study methods, with data collection through interviews, document analysis, and direct observation. SWOT, PESTEL, and Porter's Five Forces analyses were conducted to evaluate the company's internal and external situation. Furthermore, this research designs the right funding strategy based on 5 funding alternatives sourced from venture capital, Angel Investors, Banks, IPOs and Bonds. Based on the comparison results, alternative 3 (Bank Loan) is more profitable. This alternative provides NPV of Rp 8,503,386,171.21, Internal Rate of Return (IRR) of 31%, Payback Period (PP) for 4 years. This alternative will increase the value of the company in several ways such as diversification of financial risks, tax benefits on interest payments, guaranteed retained earnings, quick disbursement of funds, and maintaining the balance of shareholders' equity. The findings of this study highlight the huge potential of the biomass market in West Java and Indonesia, and the importance of an appropriate funding strategy. This research provides valuable insights for companies looking to enter the biomass industry.

KEYWORDS: Biomass, Bank, PT ABC, Project financing, West Java

INTRODUCTION

One source of energy as an alternative industrial fuel is biomass. Biomass is organic material derived from plants and animals, such as wood, straw, agricultural waste, and other organic waste(1–3). By using biomass as fuel, industries can help reduce dependence on fossil fuels that produce high carbon emissions and cause air pollution. The use of biomass as fuel also helps in the reduction of organic waste. Agricultural waste such as straw and organic waste from the food industry can be utilized as biomass to produce energy, reducing the amount of waste that has to be disposed of in the environment. This helps in reducing environmental pollution issues and managing waste more efficiently. In addition, the use of biomass as fuel helps in the diversification of energy sources. The production and use of biomass as fuel can open up new opportunities for local industries, such as agriculture and forestry. This can create new jobs, increase the income of farmers and ranchers, and support economic growth in rural areas(3–6).

A positive impact of using biomass is that it reduces greenhouse gas emissions. When biomass is burned, only a certain amount of carbon is released into the atmosphere that was previously sequestered by the plants as they grow. This helps in reducing the carbon footprint of industries and supports climate change mitigation efforts(7–9). The use of biomass also encourages the development of technologies that more efficiently convert biomass into energy. Technologies such as biomass gasification and biomass power generation are constantly evolving, providing more environmentally friendly and efficient solutions in using this energy source. Therefore, the development and utilization of biomass should continue to be encouraged to achieve a more sustainable and environmentally friendly energy system(10,11).

PT ABC is a private company established in 2012 and engaged in the natural gas industry and other clean energy products that are environmentally friendly. Currently PT ABC has a biomass factory that produces wood chip(12,13) and wood pellet(14) in Central Java and West Java region. Furthermore, this year, PT ABC focuses on expanding the biomass market with the goal of supplying more than 1000 tons of wood pellet per purchase order. For that, PT ABC needs an investment strategy in strengthening the market for biomass products (wood pellet or wood chip). The investment focuses on in-depth market analysis to identify potential biomass product markets in target regions, such as West Java, Investment in Production and Distribution Infrastructure and also Partnerships with Wood Pellet Suppliers and Manufacturers.
Financial viability analysis is crucial in investing in Biomass products. This analysis helps in measuring the potential profitability of estimated income, production costs, and expected profit margins from the sale of Biomass (15–17). Furthermore, financial viability analyses can evaluate the risks associated with investments, including market risks, technical risks and financial risks. The company can calculate the expected return on investment (ROI) of the project. Then, the financial viability analysis helps in determining the source of funds needed for the investment, whether from the company's internal capital, bank loans, or third-party investments. Companies can plan an optimal capital structure to support this Biomass project (18,19).

METHODS

The research method used is a combination of descriptive methods and case studies (20,21). Descriptive Methods focuses on describing and analyzing business situations, including business strategies and financing in the biomass industry. In the meantime, case studies will allow researchers to deepen the specific case of PT ABC in entering new business in the biomass industry in West Java. This will enable in-depth analysis of the business strategies applied, the problems faced, the financial decisions taken, and the impact of such decisions. Case studies can also provide valuable insights for practitioners and other researchers interested in similar issues.

By combining descriptive methods and case studies, the research can several important objectives, among others:

• Clearly describe the business situation in the biomass industry, including the opportunities and challenges faced by companies entering new.
• Analyzed the business strategies implemented by PT ABC, including marketing strategies, financial strategies and operational strategies relevant to biomass business.
• Discuss the financing aspects involved in entering a new business, including fund resources, capital structures, and financial risk management.
• Provide valuable insights to stakeholders, investors, and governments related to the development of biomass industries in the West Java region or other regions.

Thus, using descriptive methods and case studies would provide a comprehensive and in-depth framework to answer the research questions raised in the title.

Figure 1. Conceptual Framework
There are two main focuses in this research: the development of a business strategy and the financing strategy for the company as shown in Figure 1. The company will first analyze the business situation internally and externally. SWOT analysis is a method used to evaluate strengths, weaknesses, opportunities, and threats faced by an organization, project, or individual. This analysis helps in understanding the relative position of an entity in the context of its internal and external environment(22–24). STP analysis is a strategic approach in marketing that aims to understand and divide the market into more defined and accessible segments. STP stands for Segmentation, Targeting, and Positioning(25–27).

As for external analysis using PESTEL analysis and Porter's Five Forces Analysis. PESTEL analysis is a framework used to analyze external macro environment factors that can affect a business or organization. The abbreviation "PESTEL" represents six main categories of such factors, namely: Political, Economic, Social, Technological, Environmental, and Legal (28,29). On the other hand, Porter's Five Forces analysis is a framework used to evaluate the attractiveness and intensity of competition in an industry or market. It helps in understanding the competitive dynamics that affect the profitability of a business. The five forces that are analyzed in this framework are Rivalry among existing competitors, Threat of substitute products or services, Bargaining power of suppliers, Bidding power of buyers, and Threats of new entrants(30–32).

After conducting business situation analysis, the company plans to undertake internal development of this new business for biomass products. (Woodchip dan wood pellet). Corporate internal development strategy refers to an enterprise's efforts to improve performance and growth through internal capacity development, product or service innovation, operational efficiency, and human resource management. The main focus of this strategy is the development of new products and market expansion. This internal development strategy is expected to create competition advantage for companies that affects both short- and long-term corporate profits.

In addition to developing a business strategy, the company has also developed an appropriate funding strategy for this biomass project. This strategy begins with doing financial feasibility studies and leverage financing strategies using US Index theory(15). In funding this project, there are at least three alternatives that will be simulated to get the correct calculation. The most optimal funding alternative would be the aim of this research as well as a recommendation for the company.

Based on this conceptual framework can be seen the contribution of this research that produced recommendations of business strategy and the right financing strategy for the company in developing this new business.

RESULT AND DISCUSSIONS

Business situation analysis

Business situation analysis is an important process for understanding the circumstances and factors that affect the performance of a business. Through internal and external analysis, a business can identify its internal strengths and weaknesses as well as its external opportunities and threats. This enables better decision-making and the development of more effective strategies to achieve its business goals. Analysis of PT ABC's business situation internally is carried out by interviewing the owner, analyzing company documentation and some related literature.

Internal analysis of PT ABC is carried out using SWOT analysis and STP analysis. Each analysis is explained as follows.

A. SWOT

Table 1. SWOT analysis

<table>
<thead>
<tr>
<th>SWOT</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td>Sustainable availability of Wood from Forestry Residue.</td>
</tr>
<tr>
<td></td>
<td>Strategic location of Woodchip Plant in West Java.</td>
</tr>
<tr>
<td></td>
<td>Large production capacity for woodchips and wood pellets.</td>
</tr>
<tr>
<td></td>
<td>High quality standards for woodchip and wood pellet products.</td>
</tr>
<tr>
<td><strong>Weaknesses</strong></td>
<td>Dependence on forestry residue supply from partners</td>
</tr>
<tr>
<td></td>
<td>Limitations in processing and distribution infrastructure</td>
</tr>
<tr>
<td></td>
<td>Potential for raw material price fluctuations</td>
</tr>
</tbody>
</table>
SVLK and ESKA certification as a biomass exporting company

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased market demand for renewable energy</td>
<td>Competition from similar companies</td>
</tr>
<tr>
<td>Development of innovative biomass products</td>
<td>Changes in government policies related to renewable energy</td>
</tr>
<tr>
<td>Cooperation with related parties for infrastructure development</td>
<td>Risk of fluctuations in biomass market prices</td>
</tr>
</tbody>
</table>

B. STP

STP (Segmentation, Targeting, Positioning) analysis for PT ABC can be done as follows:

Segmentation:
- Geographic: Focus on Central Java and West Java as locations for biomass plants.
- Demographic: Targeting industries that require renewable energy such as factories, hotels, and other industrial sectors.
- Psychographic: Targeting consumers who care about the environment and choose renewable energy as the main choice.

Targeting:
- Targeting large companies that have large energy needs and are committed to using renewable energy.
- Targeting consumers who prioritize sustainability and environmental friendliness in their operations.
- Targeting export markets for biomass products by utilizing SVLK and ESKA certifications.

Positioning:
- Positioning PT ABC as the premier provider of renewable energy in Indonesia.
- Emphasize the high quality of biomass products and sustainability of feedstock supply.
- Conveying messages about the company's positive contribution to the environment and sustainability.

With the right STP approach, PT ABC can identify potential market segments, target the market with appropriate strategies, and position itself as a leader in the renewable energy industry in Indonesia.

External analysis

A. PESTEL

The PESTEL (Political, Economic, Social, Technological, Environmental, Legal) analysis for PT ABC can be done as follows:

Political
- Government policies on renewable energy can affect regulations and incentives for biomass companies.
- Changes in environmental and energy policies can affect company operations.

Economic
- Fluctuations in biomass feedstock prices can affect the company's production costs.
- Global and domestic economic conditions may affect the demand and price of biomass products.

Social
- Public awareness of the importance of renewable energy can increase demand for biomass products.
- Corporate social responsibility in protecting the environment can improve the company's image in the eyes of consumers.

Technological
- Technological advances in biomass processing can improve the company's production efficiency.
- Technological innovations in renewable energy can provide new opportunities for companies.

Environmental
- The company must consider the environmental impact of biomass production activities.
- Sustainable availability of biomass feedstock needs to be maintained to sustain the company's operations.

Legal
- Compliance with applicable environmental and energy regulations is critical for the company.
- Changes in regulations related to timber certification and legality can affect the company's operations.
By considering the above factors, PT ABC needs to pay attention to external conditions that can affect the company's business operations and strategies in the long term. With a good understanding of the PESTEL factors, the company can identify opportunities and overcome challenges in its business environment.

B. Porter’s Five Force

The Porter's Five Forces analysis for PT ABC can be done as follows:

1. Strength of Competition in the Industry:
   - The level of competition in the biomass industry can be affected by the number of competitors, product differentiation, and level of production capacity.
   - The presence of competition from similar companies in the provision of renewable energy can affect the price and market share of the company.

2. Threat of Substitute Products:
   - Other renewable energy products such as solar and wind can be an alternative for consumers, reducing the demand for biomass products.
   - The company needs to continue to innovate and improve product quality to reduce the threat of substitute products.

3. Bargaining Power of Suppliers:
   - A company's dependence on forestry residue suppliers can affect the price and availability of raw materials.
   - Strong negotiations with suppliers can help the company maintain profit margins.

4. Bargaining Power of Buyers:
   - Buyers with bargaining power can influence prices and contract terms.
   - Market diversification and superior service can help companies maintain relationships with buyers.

5. Threat of New Competitor Entry:
   - The threat of entry of new competitors in the renewable energy industry can increase competition and lower prices.
   - Companies need to maintain their competitive advantage and strengthen their position in the market to face the threat of new competitors.

By understanding the forces of Porter's Five Forces that affect the renewable energy industry, PT ABC can identify the right strategy to optimize opportunities and overcome challenges in its business environment.

Market research PT ABC in West Java

In general, PT ABC has a target market for woodchips and wood pellet products in three main sectors, namely Industrial, Small and Medium Industry (SME) and Export. In the industrial sector, PT ABC targets the textile, F&B, pharmaceutical and herbal industries, the chemical industry and the vehicle tire industry. In the SME sector, PT ABC targets tofu factories, cracker factories and soya sauce factories. While in the export sector, PT ABC targets to export woodchips and wood pellets to South Korea. The market research of PT ABC can be seen in table 2.

Table 2. PT ABC Market Research for Woodchips and Wood Pellets Products

<table>
<thead>
<tr>
<th>No</th>
<th>Sector</th>
<th>Target market (Number of Company)</th>
<th>Pessimistic Revenue/Year</th>
<th>Revenue/Year</th>
<th>Optimistic Revenue/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Industrial</td>
<td>5</td>
<td>3.000.000.000</td>
<td>3.750.000.000</td>
<td>4.500.000.000</td>
</tr>
<tr>
<td>2</td>
<td>UKM</td>
<td>20</td>
<td>1.250.000.000</td>
<td>1.562.500.000</td>
<td>1.875.000.000</td>
</tr>
<tr>
<td>3</td>
<td>Export</td>
<td>3</td>
<td>750.000.000</td>
<td>937.500.000</td>
<td>1.125.000.000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>5.000.000.000</td>
<td>6.250.000.000</td>
<td>7.500.000.000</td>
</tr>
</tbody>
</table>

Based on market research in table 4.2, PT ABC in the first year has a revenue of Rp 5.000.000.000. This value comes from the assumption of PT ABC's initial target consumers in West Java from the Industrial, SME and Export sectors. However, PT ABC targets a growth of 23% every year. Several considerations related to the relevance of 23% growth per year for PT ABC in West Java.
Project Cost

Project Cost is the total funds needed to complete the project or work that consists of a Direct Cost and Indirect Cost. The Project Costs are any expenditures made or estimated to be made, or monetary obligations incurred or estimated to be incurred to complete the project which are listed in a project baseline.

Capital Expenditure (Capex)

Capex are funds used by companies to acquire, upgrade, and maintain physical assets such as property, plant, buildings, technology, or equipment. Capex is often used to carry out a new project or investment by a company. in this case Capex will focus on the cost of building rental, construction, equipment and equipment in the new branch as shown in table 3.

Table 3. Capex of PT ABC in West Java

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal</td>
<td>95,000,000</td>
</tr>
<tr>
<td>Main Equipment</td>
<td>2,667,935,000</td>
</tr>
<tr>
<td>Erection &amp; Installation</td>
<td>2,133,000,000</td>
</tr>
<tr>
<td>Civil Works</td>
<td>2,300,000,000</td>
</tr>
<tr>
<td>Project Management</td>
<td>730,296,750</td>
</tr>
<tr>
<td>SVLK, IMB, AMDAL, Permit</td>
<td>200,000,000</td>
</tr>
<tr>
<td>Transport</td>
<td>669,055,450</td>
</tr>
<tr>
<td>Custom Clearance</td>
<td>277,821,225</td>
</tr>
<tr>
<td>Insurance &amp; Survey</td>
<td>177,523,375</td>
</tr>
<tr>
<td>TAX</td>
<td>650,546,100</td>
</tr>
<tr>
<td>Total</td>
<td>9,901,177,900</td>
</tr>
</tbody>
</table>

(Source: Internal)

Working Capital (WC)

Working Capital (WC) is a term that refers to the difference between current assets (assets that can be converted into money within one year) and current liabilities (liabilities that must be paid within one year). It is an important measure to evaluate the financial health of a company and its ability to carry out daily operations. PT ABC's WC can be seen in the following table 4

Table 4. WC of PT ABC in West Java

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stockpile</td>
<td>124,806,959</td>
</tr>
<tr>
<td>Manpower</td>
<td>249,613,918</td>
</tr>
<tr>
<td>Operational</td>
<td>249,613,918</td>
</tr>
<tr>
<td>Total</td>
<td>624,034,794</td>
</tr>
</tbody>
</table>

(Source: Internal)

Financing Strategy Analysis

In this research, the author will examine several financing alternatives that can be used by the company in order to develop its business. Alternative financing strategies that can be explained further are alternatives whose funding sources come from internal, Venture Capital, angel investors, Bank Loan, IPO and Bonds. In addition, the company will analyze the projected income statement for the next 5 years first as a determinant to determine the company's capital structure. The calculation can be seen as follows:

a. Alternative 1 (internal and venture capital): The first financing strategy is financing from internal sources of 30% of investment needs and 70% of funding through venture Capital for 5 years.

b. Alternative 2 (Internal, Investor and leasing): The second financing strategy is financing from internal sources of 10% of investment needs, 38% of funding through Investor for 5 years and 52% funding through Leasing for 5 years.
c. Alternative 3 (Internal and Loan Bank): The third financing strategy is financing from internal sources of 30% of investment needs and 70% of funding through banks for 5 years.

d. Alternative 4 (Internal and IPO): The Fourth financing strategy is financing from internal sources of 20% of investment needs and 80% of funding through IPO for 5 years.

e. Alternative 5 (Internal and Bond): The Fifth financing strategy is financing from internal sources of 50% of investment needs and 50% of funding through Bond for 5 years.

Overall, all of these alternatives are feasible for financing the expansion project.

Table 5. Comparison of Financing Strategy Alternatives

<table>
<thead>
<tr>
<th>Description</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
<th>Alternative 4</th>
<th>Alternative 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>WACC</td>
<td>25.77%</td>
<td>14.96%</td>
<td>9.87%</td>
<td>9.6%</td>
<td>11.97%</td>
</tr>
<tr>
<td>Payback Period</td>
<td>6 Year</td>
<td>4 Year</td>
<td>4 Year</td>
<td>6 Year</td>
<td>6 Year</td>
</tr>
<tr>
<td>ROI</td>
<td>12%</td>
<td>5%</td>
<td>40%</td>
<td>15%</td>
<td>8%</td>
</tr>
<tr>
<td>ROE</td>
<td>31%</td>
<td>36%</td>
<td>19%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>IRR</td>
<td>17%</td>
<td>19%</td>
<td>31%</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>US Index</td>
<td>3.61</td>
<td>1.74</td>
<td>2.01</td>
<td>4.7</td>
<td>2.82</td>
</tr>
</tbody>
</table>

(Source: Internal)

The most favorable alternative based on the table is Alternative 3. Alternative 3 is the overall best option based on the highest NPV, highest ROI, and highest IRR, despite having the highest WACC. The short payback period and high profitability metrics (ROI and IRR) indicate that Alternative 3 has significant payback potential despite the higher cost of capital. However, it should be noted that the selection of alternatives should also consider project risks and reliability of estimates.

CONCLUSION

The right business development strategy that PT ABC business development was internal development. Some of the benefits that PT ABC feels with this strategy include: the company can maintain full control over all operational and strategic aspects, more economical and production and management processes can also be controlled in accordance with established internal standards and policies. PT ABC has a target market for woodchips and wood pellet products in three main sectors, namely Industrial, Small and Medium Industry (SME) and Export. In the industrial sector, PT ABC targets the textile, F&B, pharmaceutical and herbal industries, the chemical industry and the vehicle tire industry. In the SME sector, PT ABC targets tofu factories, cracker factories and soya sauce factories. While in the export sector, PT ABC targets to export woodchips and wood pellets to South Korea. The targeted revenue value in the first year is Rp 5,000,000,000, 00, while the growth target is 23%. There are Five alternative financing proposed in this study. First, financing from internal and venture capital sources is 30% and 70% for 5 years, respectively. The second is financing from internal and angel Investor sources is 30% and 70% for 5 years. The third alternative is financing from internal sources, and bank sources is 30% and 70% for 5 years. The Fourth financing strategy is financing from internal sources of 20% of investment needs and 80% of funding through IPO for 5 years. And The Fifth financing strategy is financing from internal sources of 50% of investment needs and 50% of funding through Bond for 5 years. Based on the comparison shows alternative 3 is more profitable. This alternative provides an NPV of IDR 8,503,386.171,21, Internal Rate of Return (IRR) of 31%, Payback Period (PP) for 4 Year. This alternative will increase the value of the company in several ways such as diversification of financial risk, tax benefits on interest payments, guaranteed retained earnings, fast disbursement of funds, and maintain the balance of shareholder equity.
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