



Exploring the Potential and Marketing Strategies of Coconut Shell Briquettes in West Sulawesi, Indonesia

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Abstract. The global transition toward sustainable energy sources has intensified the demand for biomass alternatives, positioning coconut-shell charcoal and briquettes as viable renewable fuel options. However, small-scale agro-industries face significant market penetration challenges owing to geopolitical instabilities and infrastructure limitations. This study examines strategic marketing approaches for coconut shell briquette enterprises operating in emerging markets, using CV Hikmah Surabaya Arang (West Sulawesi, Indonesia) as a case study. This study addresses the critical gap in understanding how traditional charcoal and briquette producers can navigate complex international trade environments while capitalizing on domestic policy-driven opportunities. Employing an exploratory case study methodology, this study utilized qualitative descriptive analysis, the 4C Diamond framework, and the TOWS matrix to assess market positioning and strategic alternatives. The findings reveal that resource abundance alone is insufficient for market success, and strategic market diversification and adaptive distribution channels are essential for sustainable growth. This study identifies Asia-Pacific trade corridors as viable alternatives to traditional Middle Eastern routes affected by regional conflicts, while Indonesia's sustainable smart city development, like the new capital city, presents significant domestic market opportunities. This research contributes to the literature on crisis-resilient marketing strategies and provides a framework for small-scale coconut-shell charcoal and briquette enterprises seeking international market expansion.

Keywords: briquettes marketing strategies, coconut agroindustry, coconut shell charcoal, tows analysis, 4C diamond framework

1 Introduction

The global transition toward sustainable energy sources has intensified the demand for renewable alternatives to fossil fuels, driven by climate change and environmental degradation [1]. Even more complex, this involves technological innovation, policy and

regulation, and socioeconomic factors [2]. The share of renewable energy in the energy sector needs to increase dramatically from 25% in 2017 to 86% by 2050. There are affordable and technically feasible options available offering a special opportunity to accelerate the shift to digital, decentralized, and carbon-free energy systems [1]. Therefore, agricultural biomass must be used to improve the efficiency of waste recovery and remediation. Developing countries use large amounts of biomass for energy applications, because agriculture and forestry are their primary economic drivers [3]. Coconut-shell charcoal and biomass briquettes have become popular renewable energy sources. Controlled carbonization of coconut shells is an environmentally friendly process that produces no carbon emissions. One major factor causing global warming is carbon dioxide [4].

Indonesian coconut shell charcoal and briquettes possess promising possibilities in the global market, as evidenced by a 4.5% growth in coconut commodity export trade. By 2023, the export value of coconut charcoal had reached USD 173.255 million, with a volume of 163,178 tons [5], [6]. The abundant availability of raw materials and high quality briquettes and coconut shell charcoal in Indonesia has attracted the attention of the global market. There are significant export opportunities in priority briquette markets, including the Middle East, America, Europe, Russia, and Australia, which require environmentally friendly fuels for barbecue and shisha smoking [7]. Indonesian briquettes are highly sought after in the international market because of their high fixed carbon content (83.65%) and moisture content (3.78%), which permit up to three hours of burning time. Additionally, they are odorless and smokeless [8], [9].

West Sulawesi Province exemplifies the paradox between abundant resource potential and underutilized market opportunities within Indonesia's coconut shell briquette industry. The province encompasses 42,898.79 hectares with a total production of 37,226 tons per year (equivalent to copra), generating substantial coconut shell waste that remains largely unutilized [10]. Most charcoal and briquette agroindustry enterprises have penetrated global markets through an Original Equipment Manufacturer (OEM) business model, enabling private label production for international brands. The OEM business model provides several competitive advantages that reduce marketing costs for international clients, enhance quality control through direct manufacturer relationships, and provide flexible production capabilities to meet specific client requirements across diverse market segments [11].

However, enterprise operations reveal critical marketing challenges stemming from internal infrastructural constraints, which fundamentally compromise competitive positioning. The absence of customs offices and international standard ports in West Sulawesi forces the company to utilize distant facilities, such as Makassar Port in South Sulawesi. This situation has led entrepreneurs to use the services of exporters' forwarders from outside the province to ensure smooth product shipments.

External marketing challenges compound internal constraints, creating a multidimensional crisis that threatens market sustainability. The Covid-19 pandemic has significantly affected the briquette industry, which primarily focused on exports. Generally, production, supply chain, and business networks were issues for 82%, and 26.5 % reported not having enough working capital to sustain or launch a business [12]. Geo-

political tensions, particularly the Israel-Palestine and Russia-Ukraine wars, have significantly impacted access to Middle Eastern markets. Logistical disruptions such as blocked ports have necessitated rerouting cargo, shipping delays, and establishing new logistics routes by increasing transit times and costs [13], [14]. This geopolitical disruption is particularly damaging for Indonesian exporters, who have historically relied on Arab countries as primary export destinations.

The convergence of internal and external marketing challenges creates a critical business sustainability crisis that extends beyond enterprise concerns and encompasses broader agro-industrial development implications. This situation highlights the need for an advanced analytical framework to understand complex market dynamics. Significant research gaps persist regarding comprehensive marketing strategies for coconut shell-based products that face simultaneous internal and external challenges. Previous studies have predominantly focused on the technical optimization of briquette production processes [15] - [19] and comparative analyses of different biomass feedstocks [4], [8]. However, few studies have systematically examined the economic [7], [20] and marketing dimensions of coconut shell briquettes [21] - [23].

This study uses the 4C diamond driver framework, which includes changes, customers, companies, and competitors and offers a holistic approach to market analysis that addresses the multifaceted nature of the business ecosystem [24]. TOWS (Threats, Opportunities, Weaknesses, Strengths) analysis extends traditional SWOT methodology by using a 4C diamond framework that emphasizes strategic option generation through systematic factor combinations, enabling organizations to develop four distinct strategic orientations for comprehensive market response. This is the novelty of this research compared with previous studies that have never used this framework in strategy formulation.

This study aims to explore the potential and analyze comprehensive marketing strategies for coconut shell briquettes in West Sulawesi's agro-industry, targeting both the domestic and global markets. Contributions include advancing theoretical understanding of agro-industrial marketing strategies under adverse conditions, providing empirical insights, and offering practical recommendations for industry development in challenging environments in developing regions

2 Research Methods

The study was conducted from June to August 2024 in the Polewali Mandar Regency, West Sulawesi Province. This study employs a qualitative research approach using an exploratory case study design to investigate the potential and marketing strategies of coconut shell briquettes in West Sulawesi's agro-industry. The case study selected CV Hikmah Surabaya Arang (HSA), which was the first in West Sulawesi to successfully export briquettes to several Middle Eastern countries using the Original Equipment Manufacturer's business model. CV. HSA's case represents broader challenges facing West Sulawesi and other coconut shell briquette industries in Indonesia, where numerous potential enterprises remain unable to access global markets because of similar infrastructural and strategic marketing constraints.

The exploratory method was chosen because this study aims to understand the current conditions in the industry, particularly the external and internal factors influencing the marketing strategy of briquettes in the global market. The limited existing research on this topic requires exploratory investigation. This approach allows researchers to gather extensive and in-depth information, thereby enabling the exploration of variables that may not have been extensively discussed in the literature [25], [26].

The data collection for this study was conducted using a combination of primary and secondary sources. Primary data were collected in three stages: semi-structured interviews, assessment of internal and external factor weights with four scales, and an online focus group discussion to formulate strategies with key informants. The selection of key informants was based on specific criteria to ensure the richness and reliability of the data. Key informants included the company director and three employees from CV Hikmah Surabaya Arang (HSA). The employees were trusted personnel or supervisors directly involved in briquette production and marketing activities, possessing comprehensive knowledge of the company's operations, challenges, and strategic outlook. Their extensive experience and direct involvement were critical for obtaining nuanced insights into the internal workings and market dynamics of HSA. Additionally, one informant from the Department of Cooperatives and SMEs, Industry, and Trade of West Sulawesi Province is included. This informant was selected because of its official capacity and expertise in regional industrial development, SME support, and trade policies, providing a broader perspective on the enabling environment and regulatory landscape of the briquette agro-industry in West Sulawesi. The potential development of the briquette agro-industry was analyzed descriptively using secondary data from the Central Statistics Agency, Ministry of Trade, company internal documents, and relevant previous research.

This research uses Threats, Opportunities, Weaknesses, and Strengths (TOWS) analysis and the 4C diamond framework. The 4C diamond analysis consists of Change, Competitor, Customer, and Company. Unlike traditional frameworks that focus primarily on internal capabilities or external competition, the 4C Diamond Framework provides a holistic view of the business environment [24]. The framework's flexibility allows for within-case and cross-case analyses, while maintaining analytical consistency. A case study company can be analyzed across all four dimensions, enabling pattern identification and comparison across different business models and market approaches. The analysis was structured into four key dimensions [24].

- Company Analysis: Internal resource assessment, core competencies, operational capabilities, and organizational readiness for market expansion
- Customer Analysis: Market segmentation, customer needs assessment, demand patterns, and buying behavior analysis
- Competitor Analysis: Competitive positioning, competitive advantages identification, and threat assessment
- Change Analysis: Environmental scanning, market trend analysis, political and regulatory changes, technological developments, socio-cultural, and economic future scenario planning

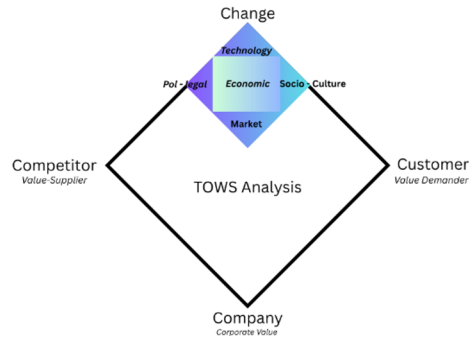


Fig. 1. TOWS Analysis With 4C Diamond Framework [24]

3 Results and Discussion

3.1 Potential Development of Coconut Shell Charcoal Briquette Agro-Industry in West Sulawesi

Availability of Raw Materials. The agro-industry for briquettes is supported by the availability of raw materials in the form of agricultural waste, specifically coconut shells. The availability of coconuts in Indonesia was calculated based on production figures, reduced by export volume, and increased by import volume. By 2022, the availability of coconuts equivalent to copra was 367,000 tons. There was an annual increase of 13.92% during the period from 2018 to 2022. The availability of coconuts is projected to increase to 567,000 tons by 2026 [27]. Based on the established ratio, where 62-65% of the whole coconut fruit can be generated as waste [28] and coconut shells constitute 30% of the dehusked coconut weight considering that dehusked coconuts typically weigh 600-800 grams [29], Indonesian coconut processing has the potential to produce between 110,000 and 147,000 tons of coconut shell waste annually. The availability of this underutilized resource serves as a basis for the growth of the sector without posing a threat to substitute processing applications or current agricultural use.

Coconut production in West Sulawesi Province consists of two stages: Domestic Coconut (Kelapa Dalam) at 34,017 tons per year and Hybrid Coconut (Kelapa Hybrida) at 3,210 tons per year. The Domestic Coconut variety dominates local plantations because of its fruit characteristics, which favor copra production. As shown in Figure 2, the Polewali Mandar Regency contributes 53.9% of the total production, amounting to 17,661 tons of Domestic Coconut and 2,665 tons of hybrid coconut. Majene Regency contributes 24% of the total production, with 8,350 tons of Domestic Coconut and 716 tons of Hybrid Coconut [10]. Both regions serve as centers for coconut development and are the primary suppliers of raw materials for the briquette agroindustry.

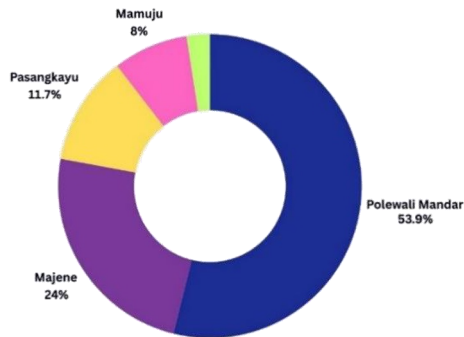


Fig. 2. Coconut Production (Copro Equivalent) in West Sulawesi Province in 2023 [10]

Coconut Shell Briquettes as Renewable Energy. Biomass is an organic material derived from living organisms such as plants, wood, and agricultural waste [30]. In many developing countries, agricultural waste is often not well managed; thus, repurposing this waste can enhance the environmental quality and sustainability [15]. Biomass can serve as a renewable energy source because it can be replenished in a shorter cycle than fossil fuels, such as coal or petroleum. Reserves of fossil fuels are diminishing, presenting a severe concern for the future. Indonesia's coal, a fossil fuel, is projected to become available until 2088 if the average production remains at 600 million tons per year. Therefore, renewable energy from biomass sources is essential for supporting human activities, whether for household, industrial, commercial, or transportation needs [18].

Coconut shell biomass has advantages over other biomass types in terms of energy assessment and carbon content. The carbon potential of coconut-shell charcoal is 40%, with a fixed carbon content of 21% and energy value of 19.4% [3]. The production of charcoal briquettes as biomass can reduce energy costs because of the very low price of the raw materials. Biomass is an environmentally friendly energy source because it originates from agricultural wastes.

Global Market Potential. Coconut-shell briquettes are products made from powdered coconut-shell charcoal combined with binding materials and are shaped into various forms. The global demand for coconut charcoal briquettes has increased by 4%. The limited demand in the domestic market has led the industry to focus on global markets [7].

Figure 3. Based on foreign trade statistics for 2023, Indonesia has exported coconut shell briquettes classified under HS code 44022010 to 94 countries worldwide, valued at 175.34 million USD in 2023. The coconut charcoal is classified under HS code 44022090 amounted to 32.45 million USD. The largest export destinations for coconut charcoal are Saudi Arabia (21.6 million USD) and China (4.5 million USD) [31].

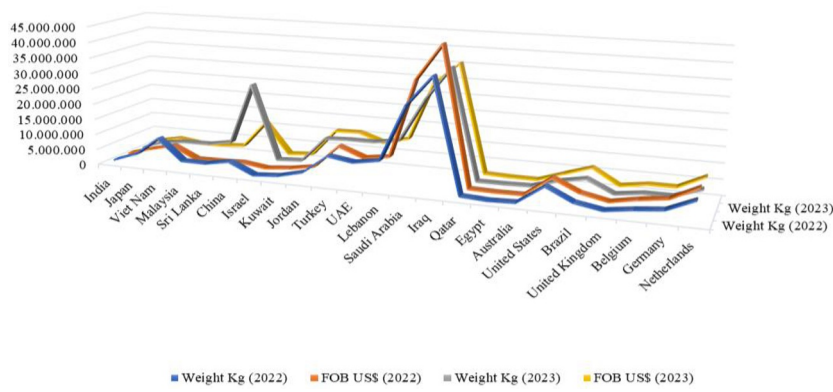


Fig. 3. Exports Value and Volume in Global Market 2022 – 2023 [31]

There are 23 countries worldwide with high potential as export destinations for coconut shell briquettes, as presented in Fig. 3. In Asia, there are six highly potential countries for exporting coconut shell briquettes, namely China (US\$ 11.22 million), Sri Lanka (US\$ 2.5 million), Malaysia (US\$ 1.9 million), Vietnam (US\$ 1.8 million), Japan (US\$ 2.9 million), and India (US\$ 1.3 million). The export of briquettes to China surged, placing them among the top three destinations. In North America, the largest export destinations are the United States of America (US\$3.5 million) and Brazil (US\$6.2 million). In Europe, the five largest export destinations include Latvia (US\$8 million), the Netherlands (US\$6.7 million), Germany (US\$2.6 million), Belgium (US\$2.6 million), and the United Kingdom (US\$1.3 million). Australia is the highest exporter in Oceania, with an export value of US\$716,000 [31].

There are ten major export destinations for briquettes in the Middle East: Egypt (US\$ 719,000), Qatar (US\$ 996,000), Israel (US\$ 1.3 million), Kuwait (US\$ 1.8 million), Jordan (US\$ 10.5 million), Turkey (US\$ 10.7 million), the UAE (US\$ 8 million), Lebanon (US\$ 10 million), Saudi Arabia (US\$ 28.86 million), and Iraq (US\$ 35.67 million) [31]. These ten Middle Eastern countries collectively represent an export value of US\$108.93 million, with Saudi Arabia and Iraq being the top two countries globally for coconut shell briquette exports [31]. The substantial potential of the global market can be harnessed by targeting the largest export destinations that can benefit the briquette agro-industry.

Domestic Market Potential. The development of Nusantara Capital City embraces the principles of a forest city, a green and sustainable metropolitan city. One of the core principles of a forest city in the new capital is low-carbon development, which is implemented by maximizing green spaces or forests for carbon absorption and using new and renewable energy sources. The development of industrial and household sectors with renewable energy sources, such as biomass, wind, and solar energy, will serve as a model for other cities in Indonesia [32], [33].

The capital city's development principles align with the government regulations and policies outlined in Presidential Regulation No. 79 of 2014 concerning the National Energy Policy, which sets targets for renewable energy to comprise at least 23% of the energy mix by 2025 and 31% by 2050. Globally, 74% of biomass energy supply is derived from renewable sources [34]. Owing to their limited supply, fossil fuels must be gradually replaced by other resources, including waste from industry, agriculture, and other sources. Utilizing biomass waste to generate energy is a viable avenue for advancement because the methods employed minimize the release of hazardous materials into the environment and have carbon dioxide emission neutrality [35]. Therefore, the abundant bioenergy resources in Indonesia represent a promising business opportunity for the biomass energy industry.

The coconut-shell charcoal briquette industry is crucial for sustainable cities, such as the new capital city in Indonesia. CV HSA, located near the new capital, is a potential briquette supplier for industrial and household uses [19]. West Sulawesi Province was designated as the support region. The rapid growth of the hospitality and tourism industry in Indonesia presents opportunities for eco-friendly alternative fuel use in resorts and villas.

3.2 TOWS-Based Marketing Strategies of Coconut Shell Briquettes in West Sulawesi

TOWS with a 4C Diamond Framework. The formulation of business and marketing strategies must consider both micro- and macro-factors related to the company's environment. The 4C diamond framework is an extension of the 3C model developed by Kenichi Ohmae [36]. The 3C model focuses on three key factors in business strategy analysis: the Company, Customer, and Competitor. Ohmae's framework was designed to align business efforts with these three components and create competitive advantages. The fourth element added is "Change," which represents external aspects that can serve as driving forces in market dynamics, such as technological advancements, policy changes, economic shifts, and evolving social trends [24], [36]. This evolution reflects a more comprehensive understanding of business dynamics that considers the rapid pace of change in today's digital and globalized era. The five main forces driving changes in business include technology, political and legal factors, sociocultural influences, economic conditions, and market trends.

The integration of TOWS with the 4C diamond framework creates a more structured External Factor Analysis System (EFAS) and Internal Factor Analysis System (IFAS). The External Factor Analysis System (EFAS) consists of factors: change, which identifies opportunities and threats from changes in the external environment; competitor, which analyzes competitive opportunities and competitive threats; and customer, which evaluates market opportunities and customer-related threats. The Internal Factor Analysis System (IFAS) consists of company factors that identify the organizational strengths and weaknesses of a company.

The measurements in the EFAS and IFAS matrices consisted of weights, ratings, and scores. Weight assignment in the IFAS and EFAS matrices represents the relative im-

portance of each identified factor in determining organizational success within a specific industry context. The weighting process employs a normalized scale, where the sum of all weights is equals to 1.00 (100%), ensuring a proportional distribution of importance across all evaluated factors. Weight measurements in IFAS and EFAS matrices utilize a ratio scale, where zero represents the absence of importance and the numerical values maintain proportional relationships [37].

The rating component in the IFAS and EFAS matrices employs an ordinal scale ranging from 1 to 4, where numerical values represent qualitative assessments of organizational performance relative to specific factors. For EFAS matrices, ratings reflect the effectiveness of organizational responses to external factors, with four indicating high response effectiveness, three representing above-average responses, two denoting below-average responses, and one signifying poor response effectiveness. This approach focuses on the organizational capability to manage external environmental factors rather than the factors themselves. For IFAS matrices, the rating scale reflects the strength or weakness of internal factors, with ratings of 4 indicating major strengths, 3 representing minor strengths, 2 denoting minor weaknesses, and 1 signifying major weaknesses. This scale ensures that strengths receive ratings of 3 or 4, while weaknesses receive ratings of 1 or 2, thus maintaining conceptual consistency in the evaluation framework. The score calculation employs straightforward multiplication of the weight and rating values for each factor, producing individual weighted scores that reflect both the relative importance of factors and organizational performance relative to those factors [37].

External factor evaluation (EFE). Strategic external factors influencing the marketing of coconut-shell charcoal briquettes are identified through External Factor Evaluation (EFE). External factors include changes, competitors, and customers, as shown in Table 1. Global demand data for Saudi Arabia and Iraq show a decline in 2023; however, the reality is that demand from these countries did not decrease. This is because China has taken over a portion of the demand from Middle Eastern countries owing to favorable export tariffs and more accessible trade routes, which are often hampered by conflicts and wars between nations. In addition, industries in China are shifting towards using biomass as a renewable energy source [17]. China's demand for coconut-shell charcoal skyrocketed in 2023, reaching 25.27 million kg, up from 4.3 million kg in 2022. This phenomenon contradicts the predictions made in Hidayah's research [38], which stated that export demand from China could continue to depreciate, as there has been a significant decline in exports to China over the past ten years (2011-2020). However, the study also found that the exchange rate of the Indonesian rupiah against the US dollar affects the volume of Indonesia's charcoal exports to China [38]. CV. HSA often delays exports when the dollar price is unstable because this leads to a decline in prices and profits for the company.

Similarly, high export tariffs on destination countries act as obstacles for companies. Indonesia has engaged in bilateral cooperation, particularly trade. This includes the reduction or elimination of export tariffs through the Comprehensive Economic Partnership Agreement (CEPA) and the Preferential Trade Agreement (PTA). The nine bilateral agreements are with Japan, Pakistan, Palestine, Chile, Australia, the European

Free Trade Association (EFTA), Mozambique, the Republic of Korea, and the United Arab Emirates. Additionally, cooperation exists within the ASEAN–China Free Trade Area [39].

Table 1. External Factor Analysis System (EFAS)

No	Opportunity	Weight	Rating	Score
Change				
1	Increasing demand for briquette products in the Global Market	0,056	4	0.225
2	Reduction to elimination of export tariffs with billateral Co-Operation	0,056	4	0.225
3	Culture consumption of briquette	0,056	4	0.225
4	Communication technology and translator apps make it easier to communicate between producers and buyers	0,056	4	0.225
5	Increase in Rupiah to Dollar exchange rate	0,056	4	0.225
6	Cooperation with Briquette and Charcoal entrepreneurs in Indonesia	0,042	3	0.127
7	Designation of West Sulawesi Province as a buffer zone of the Archipelago's IKN	0,028	2	0.056
Competitors				
8	Product promotion at trade fairs	0,028	2	0.056
9	Cooperation with export forwarders	0,056	4	0.225
Customers				
10	Customers Satisfaction	0,056	4	0.225
11	Customers awareness for the information of the product	0,042	3	0.127
12	The customer bears the risk of the product's customs duty to the destination country	0,056	4	0.225
13	Overseas customers make payment after Bill of Loading is issued	0,056	4	0.225
14	Domestic customers come from the culinary industry	0,028	2	0.056
<i>Sub Total of Opportunity</i>		0,676	48	2.451
No	Threats	Weight	Rating	Score
Change				
1	War between countries in Middle East such as the war between Israel and Palestine	0.056	4	0.225
2	Internationalised social restrictions such as Covid 19	0.056	4	0.225
3	Increase in the price of raw materials	0.028	2	0.056
4	Barriers to the Availability of supporting Facilities global trade in West Sulawesi Province	0.028	2	0.056
Competitor				

5	Domestic competitors threaten the amount of product demand to the company	0.042	3	0.127
6	Competitors of overseas companies that set up factories in Indonesia	0.042	3	0.127
7	Competitors' prices are very competitive with the company	0.028	2	0.056
8	Competition for raw materials	0.028	2	0.056
Customer				
9	No contractual relationship with buyers yet	0.014	1	0.014
<i>Sub Total of Threats</i>		0.324	23	0.944
Total Score of Opportunities - Threats		1.0	71	1.507

The significant threats faced by the company include the war between Israel and Palestine, international social restrictions, such as the COVID-19 pandemic, and the lack of supporting trade facilities in West Sulawesi. Before the COVID-19 pandemic, briquette production was relatively stable, with exports to Middle Eastern countries, including Egypt, Saudi Arabia, Jordan, and Turkey, averaging two to three containers (26 tons per container) per month. However, briquette production declined significantly following the pandemic. This was caused by an increase in raw material prices during the COVID-19 pandemic [12], and shipping costs per container surged from the regular price of IDR 28 million to IDR 250 million. This condition is relevant to the study [14], where throughout 2024, the primary obstacle from the Red Sea shipping route caused shipping prices to triple in the Middle East.

Government support is crucial for companies to address such threats. The government must facilitate international trade by developing international standard ports and customs offices. This initiative would positively impact the Regional Gross Domestic Product (RGDP) of West Sulawesi Province. The threat posed by competitors was regarded as moderate, with a weighted score of 3.0.

Entrepreneurs' ability to communicate with potential buyers is crucial for reaching agreements. However, the use of communication technology facilitates entrepreneurs in translating text messages sent through applications, such as WhatsApp. WhatsApp has the potential to be a more significant and strategic tool for consumer interaction than Facebook Messenger. Companies can leverage the platform's perceptions of sociality, privacy, and security by setting up a business account on this well-known instant messaging network [40].

The results of the EFE matrix analysis indicated that the cumulative weight of opportunities (0.676) was greater than that of threats (0.324). This condition suggests that the company has significant opportunities in global trade, with more opportunity factors than those threatening briquette marketing. The marketing potential of briquettes is heavily influenced by several important factors, with a score of 0.225, notably, the increasing global demand for coconut shell briquettes. Coconut-shell charcoal briquettes are highly sought after for shisha and barbeque consumption [7]. This result indicates

that the main focus should be on leveraging growing global market opportunities while building mitigation mechanisms to address identified threats.

Internal Factor Evaluation (EFE). Internal factors arise from the company's conditions that support the marketing of the coconut-shell charcoal briquettes. This analysis assesses and evaluates the internal strategies that influence marketing success. The internal factors are listed in Table 2. The cumulative weight score for the strength factors (0.703) was greater than that for the weakness factors (0.297). This indicates that the company possesses a sufficiently strong advantage, allowing the toleration of existing weaknesses. Nevertheless, companies must develop plans to address these weaknesses.

Table 2. Internal Factor Analysis System (IFAS)

No	Strength	Weight	Rating	Score
Company				
1	The quality of Indonesian briquette products is one of the best in the world, thus increasing competitive advantage	0.111	4	0.444
2	Effective quality control to maintain consistent product quality	0.111	4	0.444
3	Entrepreneurs improve skills by attending various export trainings	0.083	3	0.250
4	Efficient labor costs	0.111	4	0.444
5	Raw materials are affordable and readily available	0.111	4	0.444
6	The company offers competitive prices for briquettes and charcoal	0.083	3	0.250
7	The company provides good service to customers	0.111	4	0.444
<i>Sub Total of Strength</i>		0.722	26	2.722
No	Weaknesses	Weight	Rating	Score
1	Lack of capacity of entrepreneurs in processing export documents in West Sulawesi Province	0.028	1	0.028
2	Limitations in raising business capital through banks due to high risk	0.028	1	0.027
3	Lack of skills in using digital marketing	0.056	2	0.108
4	Unable to make business model changes using the company brand	0.028	1	0.027
5	The company's organizational management is not well implemented	0.028	1	0.028
6	Difficult to find a trustworthy employee for the finance department	0.028	1	0.028
7	Time-consuming production process with a briquette drying oven capacity of 2 tones/day	0.056	2	0.111
8	Burning coconut shells causes air pollution	0.028	1	0.028

<i>Sub Total of Weaknesses</i>	0.278	10	0.384
Total Score of Strengths - Weaknesses	1.0	36	3.107

A company's strengths stem from its reputation for good quality and service. According to the Director of CV HSA, other essential quality factors for potential buyers include the color and content of the ash, with a high caloric content, and flame color, precisely a pinkish hue. A whitish ash color with 2–3% ash content was classified as a Grade A briquette, indicating the good quality of the coconut shell used. This further supports the superiority of Indonesian briquette quality by demonstrating consistency with earlier findings [9]. The results of this study generally show the strengths of micro, small, and medium enterprises (MSMEs) in terms of quality, service, and the availability of raw materials. However, this is not sufficient to provide competitiveness when faced with numerous threats [41]. Regarding the company's weaknesses, it faces challenges owing to the owner's limited expertise in export documentation and inadequate management practices. Human resource competence, including knowledge, skill, and ability deficiencies, is a weakness that MSMEs frequently face [42].

Although the company has more strengths than weaknesses, it lacks a distinctive selling point that would allow it to expand and alter the course of its business model. There is an urgent need for organizations to start considering new positioning in the B2B market with continuous improvement.

Internal and external matrices: An Internal and External (IE) matrix is utilized to position various divisions within a company against nine strategic cells. This matrix was specifically designed to assist multidimensional companies in formulating strategies [37].

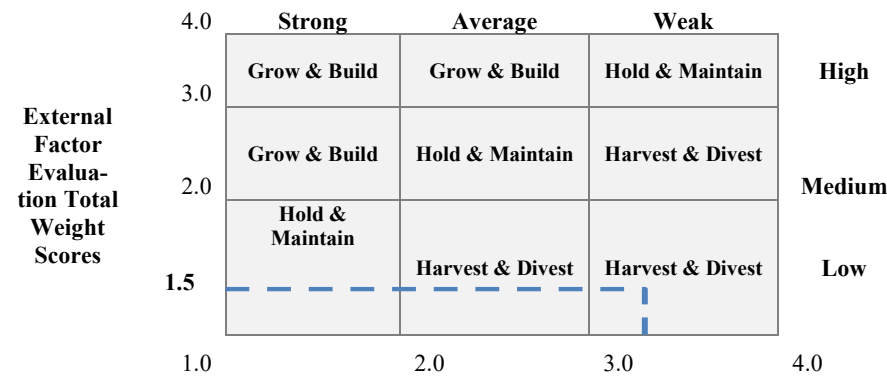


Fig. 4. Internal Factor Evaluation Total Weight Scores

The IE Matrix consists of two groups: the total score from the Internal Factor Evaluation (IFE) Matrix on the X-axis and the total score from the External Factor Evaluation (EFE) Matrix on the Y-axis. On the X-axis of the IE Matrix, a total score between

2.0 and 2.99 indicates a moderate internal position. On the Y-axis, a score between 1.0 and reflects a weak external position. The strategic business unit of CV HSA is positioned at (2.3:1.5) on the IE Matrix, which falls within cell VIII and is characterized as a strategic business unit in harvest and divest conditions. Appropriate strategies for this condition include retrenchment, turnaround, niche markets, and alliances [37].

The results from the Focus Group Discussion with the company considered 11 alternative strategies that could be pursued to transform challenges into opportunities by leveraging existing strengths.

Strength – Opportunity

1. Opening new markets while maintaining existing markets, specifically in Asian, American, and European countries, especially the largest exporting nations, such as China, Japan, Saudi Arabia, Iraq, Latvia, the Netherlands, and Brazil (S1, S2, O1, O2).
2. Offering charcoal as a raw material for briquette production when there is no demand for briquettes in the global market or as fuel in the domestic market (S5, O1).
3. Establishing partnerships with producers in Indonesia to supply raw materials or acting as third parties in briquette production (S5, O6).
4. Maintaining competitive pricing through cost efficiency and leveraging the rising exchange rate of the dollar to secure bids in the global market (S3, S4, S5, O5).
5. Enhancing customer service and offerings by providing information through websites and e-commerce platforms for both domestic and global customers. (S6, O1, O10, O11, O14).

Strenght - Threats

6. Expanding the domestic market in various regions to support global marketing barriers through partnerships with the culinary and hospitality industries domestically (S1, S5, S6, T1, T2, T5, T6).

Weaknesses - Opportunity

7. Recruiting competent employees in marketing and finance to enhance a company's management performance (W3, W5, W6, O4, O8).

Weaknesses - Threats

8. Risks are taken to secure additional capital from banks to replace the drying oven machinery to increase production capacity (W2, W7, T3, and T8).
9. Maintain the private label marketing business model (W2, W4, T6, T7).
10. Opening domestic markets as providers of renewable energy, primarily to support the IKN area designed as a city (W2, W4, and O7).
11. Establishing partnerships with charcoal raw material suppliers in West Sulawesi and other regions, such as South Sulawesi, to ensure a sustainable supply of raw materials (W8, T3, and T8).

The SO and ST strategies direct CV Hikmah Surabaya Arang to focus on niche markets and alliance strategies. It aims to leverage existing opportunities by targeting potential markets, particularly by opening new ones in Asia. Currently, China represents a significant export destination for briquettes and charcoal. In the third quarter of 2024, the demand for coconut-shell charcoal from China is projected to reach 1 million kilogram. Additionally, Lebanon began to cooperate with the same demand volume. This demand arises from partnerships with char-coal briquette producers in other regions. The company accepts a new market segment for coconut shell charcoal products at a competitive price level. Pricing without minimizing profitability is important for competition [22].

The WT and WO strategies guide the company to adopt a turnaround strategy. The company must strive to improve weak operations, address inefficiencies, and implement policies that allow short-to medium-term recovery. Taking risks is essential for the company when accepting large orders and collaborating with other producers, which requires increasing capital and upgrading production machinery such as drying ovens. Although the domestic market is not as large as the global market, it still has considerable potential to fill production gaps when obstacles arise in the global market. Partnerships with raw material suppliers are crucial to ensure a sustainable supply for the company.

Conclusion. This study reveals that coconut-shell charcoal briquettes represent a strategic opportunity within the evolving landscape of sustainable fuel alternatives, where market penetration success hinges on the intersection of environmental consciousness and economic viability. This analysis demonstrates that turnaround strategies, particularly those emphasizing niche market segmentation and strategic alliances, constitute more than tactical approaches that represent fundamental shifts in how traditional biomass enterprises can navigate complex global supply chains and geopolitical uncertainties.

This case study illustrates the broader theoretical implications of adaptive marketing strategies in emerging markets. The proposed diversification of export corridors through Asia-Pacific routes, coupled with the strategic pivot toward Middle Eastern markets via Chinese trade networks, exemplifies how small-scale enterprises can leverage geopolitical arbitrage to maintain a competitive advantage during regional conflicts. This finding contributes to the literature on crisis management and market resilience in the renewable energy sector. Additionally, prioritizing cities that support the use of renewable energy as strategic domestic market goals links the private sector's potential to change the socio-cultural landscape with government environmental measures. Biomass businesses can take advantage of policy-driven demand that goes beyond conventional market dynamics.

However, several limitations constrain the generalizability of the findings. This study's focus on a single enterprise limits the broader applicability of strategic recommendations across different organizational scales and resource capacities. Additionally, the analysis does not adequately address potential supply chain vulnerabilities in coconut shell procurement or the long-term sustainability of the proposed export routes given the evolving international trade dynamics. Future research should examine the

scalability of these marketing strategies across diverse enterprise sizes and investigate the environmental lifecycle implications of expanded coconut-shell charcoal production.

Acknowledgments. This research was funded by the Directorate General of Higher Education, Research, and Technology, Ministry of Education, Culture, Research, and Technology.

Disclosure of Interests. The authors have no competing interests to declare that are relevant to the content of this article. Authors SD, AI, and AA received research grants.

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