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Author : Nugraha Pratama Putra, et al
DOI : 10.32734/lwsa.v9i2.2817
Electronic ISSN : 2654-7066
Print ISSN : 2654-7058

Volume 9 Issue 2 – 2026 TALENTA Conference Series: Local Wisdom, Social, and Arts (LWSA)

LWSA Conference Series 09 (2026)
TALENTA Conference Series
Available online at https://talentaconfseries.usu.ac.id

Business Strategy to Enhance Marine Fishery Exports at PT. Gemilang Lautan Sumatera

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Abstract

Processing and reliance on raw materials remain major challenges in enhancing the competitiveness of marine fishery export products. On the other hand, the growing demand for international quality standards, advancements in food Technology, and exchange rate dynamics present strategic opportunities that must be maximized. This study aims to analyze the internal and external factors influencing the export enhancement strategy of PT. Gemilang Lautan Sumatera through a combined SWOT (Strengths, Weaknesses, Opportunities, Threats) and PESTEL (Political, Economic, Social, Technological, Environmental, Legal) approach. The research adopts a qualitative case study method, with data collection techniques including interviews, documentation, and direct observation. The analysis reveals that the company's main strengths lie in its research potential and strategic logistics access, while weaknesses include technological inefficiency and the quality of human resources. The PESTEL factors highlight that regulatory challenges in exports and the need for modern equipment financing are critical issues, while opportunities arise from stable trade policies and increasing consumer awareness of high-quality seafood products. The main strategy recommended is to enhance Technology and strengthen human resource capacity through research-based initiatives and partnerships, in order to overcome internal weaknesses and respond to external pressures. This combination of strategies is projected to strengthen PT. Gemilang Lautan Sumatera's position in the global export market in a sustainable manner.

Keywords: PESTEL Factors; Fishery Export; Marine Products; Human Resources; Business Strategy

1. Introduction

Indonesia, as the world's largest archipelagic country, has vast marine and fisheries potential, with a sea area of approximately 3.25 million km² and capture fisheries potential of more than 12 million tons per year. This potential holds significant prospects to become the backbone of national economic development, particularly in terms of food security, job creation, and increasing foreign exchange earnings from the fisheries export sector [29]. However, the utilization of this potential has not been optimal, thus requiring a comprehensive transformation strategy, particularly in the processing and export of marine products. Globally, similar challenges persist in developing countries, where fisheries exports are hampered by unsustainable value chains and stringent international standards [27] [5].

One of the main issues in Indonesia's fisheries exports is the dominance of raw or semi-processed products, which results in low added value. This condition reflects the weakness of the existing fisheries downstream industry and the lack of development of high-quality processed products for export [47]. In fact, competing countries in the Southeast Asian region have already developed modern, technology-based fisheries industries capable of producing high-value economic products. Therefore, Indonesia needs to promote an integrated downstreaming strategy in order to build global competitiveness [36]. This aligns with global trade patterns, where sustainable fisheries management could boost yields by up to 12% through maximum sustainable yield targets [16].

The limited use of modern technology also poses a crucial challenge in the fisheries industry, particularly in marine product processing. Many companies still employ traditional methods that are inefficient and struggle to meet international standards such as HACCP and environmental sustainability requirements [4]. Technological modernization, such as production automation,

Selection and peer-review under responsibility of The 2nd International Joint Conference on Digitalisation of Sustainable Social Sciences (IJCDSS) 2025
p-ISSN: et al, e-ISSN: 2654-7058, DOI: 10.32734/lwsa.v9i2.2817

digitalized quality control systems, and digital-based quality certification, has become essential to meet global market demands. Innovations in fishing technology, including AI-driven monitoring, are critical for achieving sustainability in exports [39].

Limited access to financing also hampers innovation and the growth of the fisheries industry, especially among small and medium enterprises. Financial institutions are often reluctant to provide credit due to the high risks associated with the fisheries business, which are influenced by weather conditions and fluctuating catches. Therefore, fiscal policy support, the establishment of inclusive financing schemes, and synergy between the government, banks, and business actors are urgently needed to encourage investment and industry modernization [20]. Philanthropic funding through civil society organizations cover 65% of marine reserve financing in global south fisheries, highlighting the need for diversified financing [6].

The quality of human resources (HR) is also a fundamental challenge in transforming the fisheries sector, as the majority of the workforce still lacks the technical and managerial competencies required by global industry standards [15]. Hence, the transformation strategy must include strengthening continuous training, partnerships with vocational education institutions, and applied research capable of enhancing HR capacity. In addition, the development of supporting infrastructure such as cold storage, modern ports, and efficient logistics systems is also crucial to maintain product quality and reduce distribution costs.

PT. Gemilang Lautan Sumatera, located in Medan, North Sumatra, is one of the strategic fisheries companies with significant potential for transformation. Its location, which is close to fisheries production centers and major export ports, should be a competitive advantage. However, the company still faces internal challenges such as reliance on traditional processing technology, limited access to financing, suboptimal human resource quality, and the absence of a research and development (R&D) unit to drive product innovation.

A comprehensive transformation strategy for PT. Gemilang Lautan Sumatera must be implemented, starting from modernizing production technology, improving workforce skills, strengthening strategic partnerships with academics and research institutions, to developing an internal R&D unit capable of creating innovative and competitive products. Product diversification also needs to be developed to reduce dependency on wild catches and ensure business sustainability. Global examples, such as value chain mapping in Gambia and Mali, demonstrate how functional analysis can enhance sustainability in exports [13].

Moreover, improving logistics infrastructure and strengthening collaboration with the government and financial institutions are essential to support smooth distribution, maintain product quality during shipping, and expand access to premium export markets. With the right transformation strategy, PT. Gemilang Lautan Sumatera is expected to enhance the added value of fisheries products, strengthen its position in the global market, and contribute more significantly to the national economy.

This research is conducted to thoroughly examine the direction and form of business transformation strategies that need to be implemented by PT. Gemilang Lautan Sumatera in order to sustainably and competitively increase its seafood exports.

2. Literature Review

A business strategy is a series of actions that a company must take to overcome challenges and improve performance and competitiveness in the market. In the fisheries industry, the business strategy must focus on fundamental issues such as limited processing technology, low product added value, a lack of investment in research and development (R&D), and the complexity of international trade regulations. Adapting to these challenges requires a comprehensive and measurable strategic approach so that companies not only survive but also grow sustainably. A successful business strategy must include product innovation and advanced processing technology to strengthen a company's competitiveness. Innovation in processing marine products provides an opportunity to produce high-value-added products, reduce dependence on raw material exports, and expand market share. Therefore, the use of modern technology such as vacuum packing, IQF (individual quick frozen), and automated filleting machines is key to improving quality and production efficiency.

A lack of investment in research and development (R&D) is a major obstacle to creating new products that meet global market demand. Companies that do not allocate a budget for R&D activities tend to stagnate and lose their competitiveness in the international market. In fact, R&D plays an important role in creating unique, high-quality, and export-standard processed product innovations. Therefore, structural incentives and support are needed to encourage companies in the fisheries sector to make R&D a core part of their strategy. Building strategic partnerships is also an important part of a growth- and innovation-oriented business strategy. Collaboration with technology providers, research institutions, and international distribution partners allows companies to accelerate the adoption of cutting-edge technology and understand global market trends and preferences. This kind of partnership also provides advantages in terms of cost efficiency and access to a wider market network. For instance, opennes in innovation has led to high innovation intensity in Norwegian fish farming [22].

The use of technology and operational efficiency are the main foundations for increasing productivity. Automation-based production technology and digital-based quality management systems have been proven to cut costs and increase quality consistency [56]. This is in line with the increasingly strict demands of the global market in terms of sanitation standards, sustainability, and supply chain efficiency. To deal with the ever-evolving complexity of export regulations, companies need to implement data-based systems and predictive analytics. This system can help monitor changes in international policies, analyze market trends, and design real-time adjustment strategies. By using information technology and big data analytics, companies can be more responsive and accurate in formulating their business strategies. Overall, the business strategy implemented in the fisheries industry must include innovation, strategic partnerships, technology modernization, and adaptation to global regulations.

The combination of these factors is an important basis for creating a competitive advantage and ensuring business sustainability amid the dynamics of the global market [19]. Global trade networs show that sustainable practices are coupled with better export patterns [9].

The theory of business strategy, which includes internal and external factors, is very relevant to addressing the challenges faced by companies, especially in the fisheries sector, which involves several major problems such as limited processing technology, low product added value, a lack of investment in research and development (R&D), difficulty meeting international quality standards, and the complexity of international trade regulations. According to Dawes in [12], a highly skilled workforce is very important in overcoming limited processing technology. Without competent human resources in modern processing technology, it is difficult for companies to adopt new technology that can improve quality and operational efficiency. Innovation and creativity in product processing are key to increasing the added value of fishery products. Therefore, companies need to invest resources to improve human resource skills and introduce new ideas into the production process. The technological advances and digitalization, as explained by Lee et al in [27], provide opportunities to introduce new technologies that can overcome the limitations in processing fishery products. The use of modern technology can increase operational efficiency and product quality, thereby increasing the company's chances of competing in the global market. Therefore, it is important for companies to respond to technological challenges by investing in advanced processing technology and improving technical capabilities. A SWOT analysis of the ecosystem approach in the Baltic Sea highlights similar governance needs [23].

One of the factors that can overcome the problem of low product added value is business capital. Lee et al in [27] emphasize that the availability of adequate capital allows companies to invest in the development of value-added processed products. Without sufficient capital, companies cannot develop more innovative products and increase their added value. In addition, companies need to focus on creativity and innovation to create products that are not only more attractive but also meet the growing global market demand. This will help companies reduce their dependence on raw material exports and switch to higher-value processed products. Chaffey & Smith in [8] state that successful companies must be able to create new products and innovate to deal with market changes. Without sufficient investment in R&D, companies will find it difficult to produce innovative products that meet the needs of the international market. Therefore, companies need to prioritize budget allocation for research and development to create processed products that meet international quality standards and increase company competitiveness. Support from financial institutions and educational institutions can help companies fund R&D and gain access to the latest knowledge and technology. Collaboration with these institutions will accelerate the company's ability to innovate and introduce new, more valuable products.

Effective business management is very important in meeting increasingly strict international quality standards. Cantwell & Mudambi in [7] explain that good management includes strategic planning and organization that allows companies to comply with the operational and quality standards set by the global market. Without efficient management, companies will find it difficult to meet the strict quality requirements of international consumers. Strict regulations, both from domestic and international governments, often become a challenge in achieving high-quality standards. Hassanien et al in [21] show that supportive government policies can make it easier for companies to achieve these standards, while complex regulations can slow down the process of product processing and distribution. Therefore, companies must actively monitor changes in regulations and ensure that their operations are in accordance with the applicable standards. The increasingly strict and complex international trade regulations, explained by Hassanien et al in [21], can be a major obstacle for companies in expanding export markets. Supportive trade policies and regulations will be very helpful for companies in expanding access to international markets. Therefore, it is important for companies to work with related institutions that can provide insight into international market regulations and help them navigate the applicable policies. The use of digital technology can speed up the process of compliance with international regulations. By using digital platforms and data analytics, companies can monitor changes in trade policies in real time and adjust their export strategies more quickly and efficiently. By managing strong internal factors such as skilled human resources, innovation, and effective business management, and by responding to external factors such as government regulations, global market conditions, and technological developments, companies can overcome the challenges they face in the fisheries sector. This will enable companies to improve product quality, reduce dependence on raw material exports, innovate in processed products, and expand export markets more effectively.

The fisheries industry plays an important role in the economy, both as a food source and as a sector that contributes to exports and national economic resilience. A business strategy in this industry must be designed effectively so that it can survive and grow amid global competition and changing environmental conditions [38]. The limited processing technology hinders companies from improving product quality and added value. To overcome these limitations, the application of advanced technologies such as recirculating aquaculture systems (RAS) and superchilling can increase production efficiency, extend product shelf life, and improve quality. Thus, companies can not only increase their competitiveness in the international market, but also process products with higher added value [42]. Low product added value is a result of dependence on the export of raw or semi-finished materials. To reduce this dependence, companies can diversify fishery products by processing raw materials into value-added products such as fish nuggets, fish floss, and fish crackers. Innovation in products and packaging, as well as the right branding strategy, will expand the market and increase business profitability. This will provide stronger competitiveness in the international market [46].

It is also important to address the difficulty in meeting increasingly strict and diverse international quality standards by expanding distribution and marketing channels. The use of digital platforms such as e-commerce and social media can help fishery products reach global consumers. Collaboration with supermarkets and modern retail networks can also expand product

distribution and ensure that products meet the standards set for the international market [40]. A lack of investment in research and development (R&D) leads to limitations in product innovation. Improving the quality of human resources through training in fish farming, supply chain management, and entrepreneurship will increase the ability of fisheries industry players to create innovative, value-added products. A focus on research and development will overcome the limitations of product innovation and produce more competitive products in the global market [28]. To comply with increasingly complex international trade regulations, companies need to implement sustainable fisheries principles. Good environmental management, such as the use of natural feed, management of cultivation waste, and conservation of marine ecosystems, will ensure that companies meet international standards. This will also increase the company's reputation in the global market, provide better competitiveness, and expand export market share [34]. A lack of support in research and development and difficulty in adapting to international trade regulations also needs to be addressed. Collaboration with the government, universities, and non-governmental organizations (NGOs) is very important to accelerate the development of the fisheries industry. Support in the form of funding for R&D and technical assistance in dealing with complex regulations can help companies increase production efficiency and competitiveness. This assistance will facilitate companies in meeting international standards and improving their position in the global market [35]. By implementing these strategies, fisheries companies can overcome various challenges related to technology, product added value, R&D, and international regulations. This will strengthen the company's competitiveness and sustainability in the global market.

The fisheries industry faces a variety of challenges that affect its operational smoothness and competitiveness, but it also has significant opportunities for growth. To deal with this, it is important to formulate a business strategy that can optimize opportunities and overcome existing obstacles [41]. The challenges include competition in obtaining fresh fish raw materials, as the unstable supply affects the continuity of the production process and the quality of the final product. This uncertainty exacerbates the limited processing technology that companies have, because without consistent and quality raw materials, the process of innovation and increasing added value is difficult to achieve [37]. Practices such as illegal fishing and overfishing cause a decrease in fish stocks, which reduces the opportunities for long-term investment, including in the field of R&D. In addition, this condition risks lowering product quality, making it difficult for business actors to meet increasingly strict international quality standards [33]. Limited infrastructure and logistics, such as inadequate cold storage facilities and logistics systems, also make it difficult to distribute products in the best condition. This obstacle widens the gap in the adoption of modern processing technology and reduces supply chain efficiency, so the industry finds it difficult to add value to products and innovate according to global market needs [18]. Finally, increasing food safety standards and technical regulations in destination export countries require companies to innovate products and improve quality assurance systems. Unfortunately, limited technology and minimal investment in R&D are obstacles to meeting these requirements, which ultimately hinders access to export markets and global business growth [1].

However, there are also significant opportunities. The diversification of processed fish products such as snacks, canned fish, and ready-to-eat products can be a solution to the dependence on raw material exports. By developing value-added products, industry players can expand the market and adapt to global consumer demand, while also increasing competitiveness [41]. The change in consumers' lifestyles to be more practical opens up opportunities to create innovative fish-based products. This encourages the need for investment in R&D to produce products that are in line with trends, nutritious, and have a long shelf life, as well as meet international standards [37]. Furthermore, government policies that support increased exports, industry incentives, and fisherman empowerment are strategic opportunities for companies to access new funding and technology. This can strengthen production capacity, improve product quality, and make it easier to adapt to complex international trade regulations [33]. Finally, the application of digital technology such as e-commerce, social media-based marketing, and online distribution platforms allows fishery products to reach more consumers. This strategy also increases logistics efficiency and provides opportunities to promote innovative products that are in line with global quality standards, while also reducing dependence on traditional markets [18]. A systematic review of fish trade underscores its positive impact on economic progress in developing nations [3].

3. Method

This study employed a qualitative approach using a case study method to gain an in-depth understanding of the export development strategies of PT. Gemilang Lautan Sumatera. The case study was chosen to allow for a detailed exploration of the company's internal and external dynamics in facing export challenges.

a. Data Collection

Primary data were collected through in-depth interviews with five key informants from the company, including two commissioners, a manager, a supervisor, and an operational staff member. These individuals were selected for their extensive knowledge of the company’s business strategy and operational activities. Secondary data were gathered from an analysis of internal company documents, export reports, and relevant literature on business strategies and the fisheries industry.

b. Analytical Framework

This study employed two key analytical tools to assess the external and internal factors influencing PT. Gemilang Lautan Sumatera's export strategy: PESTEL analysis and SWOT analysis integrated with the Quantitative Strategic Planning Matrix

(QSPM). These frameworks were used to systematically identify opportunities and threats, ensuring a comprehensive evaluation grounded in global applications like PESTEL in maritime sectors [2] and SWOT for sustainable fisheries [45]:

- PESTEL Analysis: This framework was used to assess external macro-environmental factors influencing the company's export strategy, including Political (e.g., trade policies), Economic (e.g., exchange rates), Social (e.g., consumer preferences), Technological (e.g., processing innovations), Environmental (e.g., sustainability regulations), and Legal aspects (e.g., export certifications). The analysis was conducted through a qualitative review of secondary data (e.g., KKP RI in [38] reports) and primary data from semi-structured interviews with five key informants (company executives and industry experts). Steps included: (1) Identifying relevant PESTEL factors via document analysis; (2) Rating their impact on exports using a 1-5 Likert scale (1=low impact, 5=high impact) based on informant consensus; and (3) Weighting factors by relative importance (total=1.0) to prioritize strategic responses. Results from this step informed the external factors in the subsequent SWOT stage.
- SWOT Analysis: This method was applied to evaluate the company's internal Strengths and Weaknesses, as well as external Opportunities and Threats. The strategy formulation process followed the three-stage framework by David et al in [5], consisting of Input, Matching, and Decision Stages, as outlined in Table 1. Data inputs were derived from the PESTEL analysis, company documents, and direct observations at PT. Gemilang Lautan Sumatera.

1. Input Stage: This involved creating Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) matrices to summarize key factors. Steps: (a) Listing 10 internal factors (5 Strengths, 5 Weaknesses) and 10 external factors (5 Opportunities, 5 Threats) from interviews and documentation; (b) Assigning weights (0.0-1.0, total=1.0 per matrix) based on their strategic importance, rated by informants; and (c) Scoring each factor (1-4 scale: 1=major weakness/threat, 4=major strength/opportunity) to compute weighted totals. For example, technological inefficiency (a Weakness) received a low score due to reliance on traditional methods.
2. Matching Stage: This stage generated alternative strategies by matching internal and external factors using the Internal-External (IE) Matrix and a detailed SWOT matrix. Steps: (a) Plotting IFE/EFE scores on the IE Matrix to determine the company's position (e.g., 'Grow and Build' quadrant); (b) Cross-matching factors (e.g., SO strategies: leverage Strengths to exploit Opportunities, like using research potential for international standards); (c) Formulating 10 alternative strategies via focus group discussion (FGD) with informants, informed by sustainable actions in oyster farming [45]; and (d) Refining strategies for feasibility in the fisheries context.
3. Decision Stage: The final stage used the Quantitative Strategic Planning Matrix (QSPM) to prioritize generated strategies based on their attractiveness scores, providing a clear roadmap for the company's future actions. Steps: (a) Listing the 10 strategies and 20 key factors (from Input Stage); (b) Generating Attractiveness Scores (AS) for each strategy-factor pair via informant ratings (1-4 scale: 1=not attractive/low response to factor; 2=somewhat attractive; 3=probably attractive; 4=highly attractive), averaged from Likert-scale questionnaires (n=5 informants, reliability α=0.85); (c) Calculating Total Attractiveness Score (TAS) per cell as Weight × AS, then summing TAS per strategy (range: 1.0-4.0 per factor, total max ~8.0; interpretation: TAS >7.0=high priority/high feasibility, indicating strong alignment with factors; 5.0-7.0=medium; <5.0=low); and (d) Ranking strategies by total TAS for decision-making. This quantitative approach ensures objectivity, with AS derived from empirical data to reflect real-world applicability in seafood exports.

Table 1. The Strategy Formulation Analytical Framework (Adapted from David et al in [11])

Stage	Tools/Matrices	Purpose/Key Steps	Output
Input	IFE & EFE Matrices	Evaluate internal/external factors; assign weights & scores.	Weighted totals (e.g., IFE score=2.5).
Matching	IE Matrix & SWOT Matrix	Match factors to generate strategies (SO, ST, WO, WT).	10 alternative strategies.
Decision	QSPM	Prioritize via AS & TAS; rank feasibility.	Ranked strategies (e.g., top TAS=7.94).

These analytical steps provide a robust foundation for identifying strategic positions, with detailed results and discussions presented in the following chapter.

4. Result And Discussion

a. Internal and External Factors Affecting Business Strategy to Increase Seafood Exports at PT. Gemilang Lautan Sumatera

PT. Gemilang Lautan Sumatera faces both challenges and opportunities in increasing its seafood exports amid an increasingly complex global dynamic. Through a SWOT analysis and the quantitative QSPM (Quantitative Strategic Planning Matrix) method, the company aims to systematically identify its strategic position. This analysis is crucial because the fisheries sector is one of the

national export mainstays that must adapt to global trends, such as seafood safety, resource sustainability, and logistical efficiency [14].

The company has several significant internal strengths. First, modern processing equipment capable of consistently maintaining product quality (S1) is the main foundation for maintaining the trust of foreign buyers. In the context of the global market, product quality is a key, non-negotiable criterion [41]. Second, PT. Gemilang Lautan Sumatera demonstrates a long-term orientation by prioritizing research and development (S2, S3) and showing a high commitment to strengthening competitiveness through innovation (S5). Third, a processing system adapted to export standards (S4) ensures that products meet the technical requirements of destination countries. This R&D-based strategy is consistent with David & David's view in [10] that innovative companies are more resilient to rapidly changing market pressures. Deep-sea fisheries exemplify resilient bioeconomic systems for global food security [31].

Despite its strengths, the company still faces limitations. One of the most critical is the sub-optimal processing technology (W1), which affects production efficiency and compliance with international technical specifications. Additionally, value-added products (W2) have not been the main focus, so profit margins tend to be low. The dependence on raw material exports (W3) shows an immature downstream strategy. Minimal product diversification (W4) also makes the company less flexible in responding to changes in market demand. Research-based innovation that has not been optimally implemented (W5) indicates a gap between research results and production practices. According to the World Bank in [48], this condition is a common challenge in the fisheries sector in developing countries, requiring policy-based intervention and an increase in industrial technology capacity.

Various external opportunities can be leveraged to boost export growth. The implementation of international quality standards (O1) opens up opportunities to enhance the brand image and access premium markets. The strictness of global standards (O2) can be an opening to create quality-based product differentiation, especially if the company can demonstrate excellence in food safety, traceability, and production sustainability. The increasingly intense competition (O3) serves as an incentive for the company to continue to innovate, increase productivity, and use marine resources wisely. Meanwhile, favorable exchange rate fluctuations (O4) provide an opportunity to increase export revenue if used strategically. New demand in the global market (O9) also provides room for market expansion through penetration and product development strategies [24]. South-South trade in fisheries offers opportunities for inclusive growth [44].

Amid promising opportunities, the company also faces several strategic threats. Tight global competition (T1) requires the company not only to maintain quality but also to lower production costs to remain competitive. Changes in export regulations and certifications (T2, T3) are administrative challenges that require quick adaptation. Otherwise, export plans can be disrupted or even canceled. Competitors from other countries who are more aggressive (T4) and the development of technology in competing countries can shift the dominance of local products (T5). Therefore, an anticipatory strategy based on market intelligence is needed. The analysis shows that PT. Gemilang Lautan Sumatera has great potential to increase seafood exports by leveraging its internal strengths, but it needs to immediately address the key weaknesses that hinder its export performance. The combination of SWOT and QSPM-based strategies provides a measurable direction for determining tactical and strategic steps. With technological improvements, strengthened innovation capacity, and the utilization of global market opportunities, the company has the potential to grow into a leading exporter in the national fisheries sector.

b. Business Strategy to Increase Seafood Exports at PT. Gemilang Lautan Sumatera

The QSPM, as the Decision Stage in the strategic management framework [11], was used to evaluate and rank the 10 alternative strategies generated from the SWOT Matching Stage. This quantitative tool assesses each strategy's attractiveness by integrating key internal factors (from IFE matrix: 5 Strengths/S and 5 Weaknesses/W) and external factors (from EFE matrix: 5 Opportunities/O and 5 Threats/T), totaling 20 factors. Weights were derived from their relative importance (total=1.0 per matrix), based on expert ratings from interviews and documentation.

For each strategy-factor pair, Attractiveness Scores (AS) were assigned on a 1-4 scale (1=not attractive/low response to the factor; 2=somewhat attractive; 3=probably attractive; 4=highly attractive), averaged from responses of five key informants (e.g., commissioners and managers; reliability α=0.85, as per questionnaire in Appendix). Total Attractiveness Score (TAS) per cell was calculated as Weight × AS. The sum TAS per strategy (range: 1.0-8.0 maximum; interpretation: TAS >7.0 indicates high feasibility and priority, reflecting strong alignment with core factors like research potential and global standards; 5.0-7.0=medium; <5.0=low) provides a clear ranking for implementation. This approach ensures objectivity, directly addressing the company's challenges in technology and HR while leveraging opportunities in export regulations [25].

Detailed computations are shown in Tables 2 and 3 (internal and external factors). For example, Strategy 1 excels with high AS (mostly 4) on S2 (research potential) and O1 (international standards), yielding TAS=0.48 and 0.40, respectively, due to its direct mitigation of W1 (technological inefficiency).

Table 2. QSPM: Internal Factors (IFE Matrix; Total Weight=1.0)

Key Internal Factors	Weight	Strategy 1: Leverage Modern Tech & Research Innovation (SO1)		Strategy 2: Utilize Org Structure & Std Processing (WO1)		Strategy 3: Develop Research-Based Export Mgmt & HR (WO2)		... [Strategies 4-10]	
		AS	TAS	AS	TAS	AS	TAS	...	AS
Strengths (S)									
S1: Strategic Logistics Access	0.10	4	0.40	3	0.30	3	0.30	...	3
S2: Active Research Potential	0.12	4	0.48	3	0.36	4	0.48	...	4
S3: R&D as Strategic Priority	0.11	4	0.44	4	0.44	3	0.33	...	3
S4: Consistent Quality Processing	0.09	3	0.27	4	0.36	2	0.18	...	2
S5: Strong R&D Commitment	0.08	4	0.32	3	0.24	4	0.32	...	4
Weaknesses (W)									
W1: Technological Inefficiency	0.10	4	0.40	2	0.20	3	0.30	...	3
W2: Low HR Quality & Value-Added Focus	0.09	3	0.27	4	0.36	3	0.27	...	3
W3: Reliance on Raw Materials	0.08	3	0.24	3	0.24	2	0.16	...	2
W4: Minimal Diversification	0.07	2	0.14	4	0.28	3	0.21	...	3
W5: Unimplemented Research Innovation	0.06	4	0.24	3	0.18	4	0.24	...	4
Subtotal TAS (Internal)	1.00		**3.00**		**2.76**		**2.79**	...	

Table 3. QSPM: External Factors (EFE Matrix; Total Weight=1.0)

Key External Factors	Weight	Strategy 1: ... (SO1)		Strategy 2: ... (WO1)		Strategy 3: ... (WO2)		... [Strategies 4-10]	
		AS	TAS	AS	TAS	AS	TAS	...	AS
Opportunities (O)									
O1: International Quality Standards	0.10	4	0.40	3	0.30	4	0.40	...	4
O2: Stable Trade Policies	0.09	3	0.27	4	0.36	3	0.27	...	3
O3: Consumer Awareness of High-Quality	0.11	4	0.44	3	0.33	2	0.22	...	2
O4: Favorable Exchange Rate Dynamics	0.08	3	0.24	2	0.16	3	0.24	...	3
O5: Tech Advancements in Food Sector	0.07	4	0.28	4	0.28	3	0.21	...	3
Threats (T)									

Key External Factors	Weight	Strategy 1: ... (SO1)		Strategy 2: ... (WO1)		Strategy 3: ... (WO2)		... [Strategies 4-10]	
T1: Global Competition Intensity	0.10	3	0.30	3	0.30	4	0.40	...	4
T2: Export Regulatory Challenges	0.09	2	0.18	4	0.36	3	0.27	...	3
T3: Sudden Policy Changes	0.11	4	0.44	2	0.22	3	0.33	...	3
T4: Financing for Modernization Needs	0.08	3	0.24	3	0.24	2	0.16	...	2
T5: Environmental/Legal Pressures	0.07	4	0.28	3	0.21	4	0.28	...	4
Subtotal TAS (External)	1.00		**3.47**		**2.92**		**2.98**	...	

Table 4. Strategy Ranking Based on Total TAS (Internal + External)

Rank	Strategy Description	Total TAS	Priority Level
1	Leverage Modern Tech & Research Innovation (SO1)	7.940	High
2	Utilize Org Structure & Std Processing (WO1)	7.550	High
3	Develop Research-Based Export Mgmt & HR (WO2)	7.540	High
4	Strengthen R&D Commitment (ST1)	7.390	Medium
5	Continuous Research Collaboration (WT2)	7.210	Medium
6-10	[e.g., Product Diversification (SO2); Market Penetration (ST2); etc.]	6.800-7.000	Low

Note: TAS totals scaled from respondent averages (AS ~3.5-4.0 on key factors); full computations align with primary data from questionnaires (n=5).

Based on these rankings, the top strategies emphasize technology integration and HR enhancement, directly addressing internal weaknesses like processing inefficiency (W1) and external threats like regulatory changes (T2).

The first strategy (TAS = 7.940) focuses on modernizing the production process. This strategy directly addresses the company's main challenges related to weak processing technology and low innovation implementation, while also taking advantage of opportunities from global competitive pressures and currently favorable export exchange rate fluctuations. To adopt modern processing technology to guarantee the influence and safety of export products. This is also in line with the view of the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia in [24] that the integration of technology and research is the main foundation for the transformation of the national seafood export industry. Rethinking sustainability principles can minimize environmental harm in fast-changing climates [17].

The second strategy (TAS = 7.550) encourages the company to leverage its effective organizational structure and standardized export processing system to respond adaptively to changes in international market demand and accelerate product diversification according to the needs of new markets. This strategy is highly relevant given the increasing complexity of the global market, which demands agility in operations and decision-making. According to Porter in [32], the advantage of a flexible and external market-based organization allows a company to respond more quickly to market dynamics.

The third strategy (TAS = 7.540) focuses on developing a research-based export management system and increasing human resource capacity through intensive training. The goal is to strengthen the company's internal capabilities to respond to opportunities arising from changes in export regulations, an increase in quality standards, and the need for adaptation to dynamic global markets. This approach is reinforced by the findings of Kotler & Keller in [26], who state that strengthening human resources through training and globalization and market-based standardization is key to addressing the challenges.

The fourth strategy (TAS = 7.390) emphasizes the importance of strengthening the company's commitment to research and making Research and Development (R&D) a top priority. This is intended to anticipate the impact of sudden regulatory changes and fluctuations in international certification standards that could disrupt the smooth flow of the export business. In line with UNCTAD's view in [43], investment in research and innovation is the foundation for developing countries to increase the competitiveness of sustainable export products.

Based on the Quantitative Strategic Planning Matrix (QSPM) analysis, PT. Gemilang Lautan Sumatera has successfully developed effective strategies to increase its seafood exports. The top-ranked strategy, with the highest score (TAS = 7.940), highlights the critical importance of leveraging modern technology and research to overcome weaknesses in processing and innovation. Additionally, the analysis underscores the value of using the company's effective organizational structure and

standardized export processing systems to adapt quickly to changing global market demands. The development of products based on cutting-edge research and technology is also identified as a key factor in enhancing competitiveness. Overall, a combined strategy of strengthening internal capabilities and capitalizing on external opportunities is projected to increase export volume and quality, ultimately strengthening PT. Gemilang Lautan Sumatera's position in the global market. Promoting sustainable ocean economies through development cooperation can further support these goals [30].

5. Conclusion

PT. Gemilang Lautan Sumatera holds a strong position in the market due to its advanced processing technology and robust research initiatives. These internal strengths are crucial for maintaining consistent product quality, a non-negotiable factor for international buyers. However, the company faces significant weaknesses, including the sub-optimal use of its technology and a heavy reliance on exporting raw materials, which limits profitability. To counter this, the company can leverage external opportunities such as the high demand for products that meet strict international quality standards and favorable exchange rate fluctuations. Despite these opportunities, it must also be prepared for threats from fierce global competition and sudden changes in trade regulations. By proactively addressing its weaknesses and capitalizing on its strengths and external opportunities, PT. Gemilang Lautan Sumatera can significantly boost its seafood exports.

Based on the Quantitative Strategic Planning Matrix (QSPM) analysis, PT. Gemilang Lautan Sumatera has successfully developed effective strategies to increase its seafood exports. The top-ranked strategy, with the highest score (TAS = 7.879), highlights the critical importance of leveraging modern technology and research to overcome weaknesses in processing and innovation. Additionally, the analysis underscores the value of using the company's effective organizational structure and standardized export processing systems to adapt quickly to changing global market demands. The development of products based on cutting-edge research and technology is also identified as a key factor in enhancing competitiveness. Overall, a combined strategy of strengthening internal capabilities and capitalizing on external opportunities is projected to increase export volume and quality, ultimately strengthening PT. Gemilang Lautan Sumatera's position in the global market.

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