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Strategy Formulation of Business Development in Catfish Hatchery Aquaculture (Study on The Panca Wargi Fish Group in Kecamatan Pacet Bandung Regency)

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Abstract: The research was conducted with the aim of finding innovations in designing business development strategies oriented to the external and internal conditions of the Panca Wargi Group. The approach chosen is a qualitative methodology that utilises primary and secondary data types in obtaining information. Interviews were conducted with fourteen interviewees, namely the group leader, core management, and group members. In this strategy planning, the IFE Matrix and EFE Matrix have outlined the internal and external aspects of the group as a basis for strategy design. Based on the results of the Internal and External Matrix (IE), it is found that the condition of the group is in position V which leans towards market penetration and product development strategies with the aim of maintaining stable business growth. The V position of the panca wargi fish group indicates that the internal and external aspects have almost equal strength, which in the long run will lead to stagnant business development, which may turn out to be dangerous in the future. With the use of the TOWS Matrix and QSPM Matrix, the twelve best alternative strategies have been compiled based on the TAS value to optimise the use of strategies. Panca Wargi Fish Group can get the best business development results starting from having the right strategy formulation.

Keywords: SWOT, QSPM, Strategy, Panca Wargi Fish Group.

INTRODUCTION

Catfish (*Clarias batracus*) has become a fishery commodity with great business prospects and potential to grow, (Hakimah et al., 2021). This can be evidenced from the increasing market demand every year, as well as from the shift in the use of traditional farming techniques to intensive farming techniques to obtain farming productivity that can keep up with market demand, (Firdaus et al., 2017; Sumitro et al., 2020). The high market demand for catfish comes from the growing population, increasing public awareness of the importance of animal protein, and fish as a source of animal protein to replace meat. For farmers, catfish has advantages in its farming methods that are simple and easy for people to

understand, its relatively fast growth, as well as its resistance to various diseases and water quality tolerance, (Anis & Hariani, 2019; Fauziyah et al., 2019; Tajerin, 2009).

Process of catfish farming includes several stages; starting from the spawning stage of broodstock, hatching catfish eggs, grading seedlings based on size, and the enlargement process. In the farming process, water quality remains an important factor that can determine the productivity of farming, because acid levels (pH) of water that are too high will cause inhibition of catfish growth and can increase the likelihood of death in newly hatched fish fry, (Widodo et al., 2023).

The Panca Wargi group is a catfish hatchery farming group located in Bandung Regency, Pacet District, Nagrak Village. This group focuses on catfish hatchery farming starting from the spawning stage until the age of the catfish reaches one and a half months. The type of catfish cultivated is pearl catfish originating from Africa, which is considered to have relatively complete performance advantages compared to other types of catfish, including advantages in stability characteristics that make the grading stage of seedlings less necessary, (Iswanto et al., 2016; Iswanto & Suprpto, 2015). Catfish fry farming is carried out in locations adjacent to irrigation streams from the Citarum River and village springs, but the water used for farming comes from ground sediment obtained through wells 5-7 metres deep. This is done by the farmers to obtain water with a low pH of 7-8, which is good for fish, to save on the cost of making channels and using water, and to anticipate when the dry season occurs and water supplies run low.

The development of the Panca Wargi Group in catfish hatchery farming has stalled because it is hindered by problems in operational management and several other factors that must be reconsidered. In this case, strategy formulation will be able to help when reconsidering the internal and external conditions that occur, so that groups and businesses will be able to gain a competitive advantage in the market, (Wijaya & Adib, 2019). The results of the analysis should also be able to help groups manage the opportunities and threats that come, so that groups can grow and survive in competitive markets, (Banka et al., 2023).

Business strategy formulation often uses SWOT analysis as the main strategic tool applied in various management fields such as in the development of port energy management systems by (Christodoulou & Cullinane, 2019) and strategy development for Chinese air cargo suppliers adapting to the pandemic by (Li, 2020). SWOT has been applied to analyse the various advantages and risk factors responsible for environmental threats. However, if we must examine environmental threats, then we must combine it with problem-based strategic planning, (Mallick et al., 2020).

The combination of SWOT and QSPM approaches is essential in generating a comprehensive strategy for potential business development. The implementation of QSPM to SWOT strategy is considered to disappear the subjective nature, (Benzaghta et al., 2021; Ghorbani et al., 2015). This combined method has been applied in various fields and has proven successful in providing more credible analysis results, as well as more inclusive strategy recommendation results such as in the selection of strategies for improving the performance of packaging companies in India by (Shri et al., 2015), the business development of Danti's Deli Bakery using differentiation strategy in Jakarta by (Zulkarnain et al., 2018), sustainable ecotourism development in Rameswaram by (Mallick et al., 2020), and the formulation of alternative strategies in the Barokah Cage Fish Group in Sukajadi by (Wijaya et al., 2023).

Considering the developments that continue to occur, it is appropriate to start formulating new strategies that can help the Panca Wargi Group business in gaining a sustainable competitive advantage through the use of SWOT and QSPM approaches.

METHOD

The research was conducted with the aim of finding innovations in designing business development strategies oriented to the external and internal conditions of the Panca Wargi Group. The approach chosen is a qualitative methodology that utilises primary and secondary data types in obtaining information. Primary data was obtained through observation and in-depth interviews with group leaders and administrators who were considered competent; secondary data was obtained from literature, documents, and books related to this issue, (Abdussamad, 2021). Sampling for data sources was done purposively, so that the sample of data sources used would fulfil the needs of characteristics relevant to the research objectives, (Andrade, 2020). Interviews were conducted with fourteen resource persons, namely the group leader, the core management, and group members who are considered more competent and understand the farming of catfish hatcheries.

This research was conducted by a team of researchers who are experts in the field of business strategy design to provide an assessment of business conditions. The determination of the value is based on the agreement obtained from the discussion between the researchers and the management of the Pancawa Wargi group, (Juarsa & Sangadah, 2023).

SWOT Analysis

SWOT analysis is utilised in evaluating the strengths, weaknesses, opportunities, and threats of a business. SWOT has recognised the importance of internal and external aspects to achieve business goals. Internal aspects refer to those within the control of the business, while external aspects are factors outside the control of the business, (Bull et al., 2016; Li, 2020; Phadermrod et al., 2019). The SWOT technique is very effective in making alternative choices for companies because it can clearly outline how strengths and weaknesses can be matched with opportunities and threats, (Stone et al., 2020). Based on internal and external factors, management can formulate four alternative strategies, namely strength-opportunity, weakness-opportunity, strength-threat, and weakness-threat, (M. E. David et al., 2017). The process of preparing the SWOT Matrix is carried out with various tools such as the internal factor evaluation matrix (IFE), external factor evaluation matrix (EFE), or competitive profile matrix (CPM), (Benzaghta et al., 2021). The SWOT Matrix can be summarised as follows:

1. SO strategy: take advantage of opportunities.
2. ST strategy: avoid threats.
3. WO strategy: reduce weaknesses to take advantage of new opportunities.
4. WT strategy: minimize weaknesses to avoid threats.

Opportunities/ Threats	Internal Factors		External Factors
	Strengths	Weakness	
	SO	WO	
	ST	WT	

Figure 1. SWOT Matrix design (Benzaghta et al., 2021).

Quantitative Strategic Planning Matrix (QSPM)

Quantitative Strategic Planning Matrix (QSPM) can help strategic managers to compare and select different strategic alternatives, and make it easier for strategic planners to more objectively assess and evaluate a series of strategies through quick and sharp judgement from experts. Based on the key success factors of the business, the matrix shows which strategies are most successful. The relative merit of each strategy in the set of options is calculated by calculating the cumulative impact of internal and external success factors, (Ba Hung Anh & Hoang Tien, 2020; M. E. David et al., 2009)

The QSPM matrix's left side will be filled in with the important internal and external success factors, and the top row will contain potential strategies. The IFAS and EFAS models, which are subsequently input into the left column of the QSPM matrix, are the direct source of this data. The table contains the corresponding categorical columns for every factor in the EFE matrix and IFE matrix in addition to the key success factors column. The top row of the QSPM matrix contains the prospective business strategies that were chosen during the SWOT analysis. The strategy manager chooses the strategy with the highest score as the foundation based on the outcomes attained with each strategy in the QSPM matrix, (F. R. David & David, 2017).

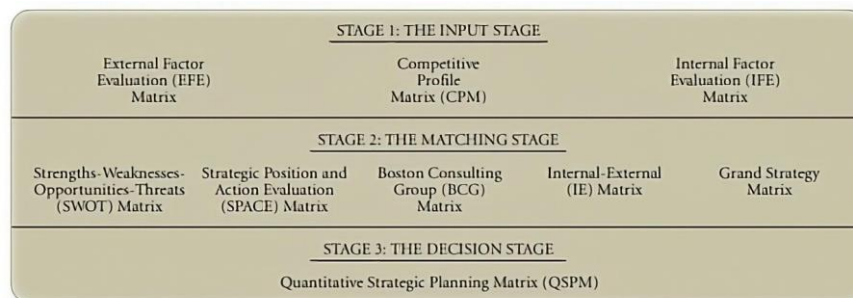


Figure 2. Stages of the business strategy development process, (F. R. David & David, 2017)

Different tools will be used at each stage of the development of a business strategy. To be precise, in the early stages of strategy development, the tools that can be used are the CPM, EFE and IFE matrices; business's strategies are found during the matching stage by utilizing the SWOT, SPACE, BCG, IE, and grand strategy matrix tools. However, the QSPM Matrix is the only tool available to planners at this point in time to assist them in fulfilling their requirements, (Ba Hung Anh & Hoang Tien, 2020; F. R. David & David, 2017).

QSPM is structured based on the components: alternative strategies; Attractiveness Score (AS); and Total Attractiveness Score (TAS). According to (Ba Hung Anh & Hoang Tien, 2020), the QSPM matrix is built in 5 steps as follows:

1. Step 1: List the opportunities/threats and strengths/weaknesses in the left column of the QSPM matrix. This matrix should include about 10 important external and internal success factors of the business.
2. Step 2: Determine the scale for determining the key internal and external success factors (found through the EFE and IFE models);
3. Stage 3: List the types of strategies the business is expected to follow;
4. Stage 4: Determine the attractiveness score for each factor for each strategy, where the score is determined through discussions between researchers and resource persons regarding the amount of influence each alternative strategy provides.
5. Stage 5: Calculate the total score of the total attractiveness score for each type of strategy.

RESULTS AND DISCUSSION

SWOT Analysis

During strategic planning, it is important to analyse the presence of internal and external aspects within a business. Internal aspects refer to things that can be controlled, while external aspects will refer to things that are beyond the control of the business. The results of Panca Wargi Group's analysis have successfully described the existing aspects, so that the design of the best strategy can be performed immediately.

Tables 1 and 2 show the results of the company's internal factors (IFE) analysis, which includes strengths and weaknesses, and external factors (EFE), which includes opportunities and threats. In business model design, strategy formulation is necessary to obtain the best results in the sustainable development of the Pancawargi fish group.

Table 1. EFE Matrix of Panca Wargi Fish Group

	Opportunities	Weight	Rating	Score
O1	Market prospects are still untapped	0.0673	3.8	0.256
O2	Public understanding of the value of animal protein has increased	0.0573	3.3	0.172
O3	The presence of fish as an alternative source of animal protein to meat	0.0628	3.6	0.220
O4	Underutilisation of natural farming zones	0.0628	3.3	0.188
O5	Customers have high trust and loyalty	0.0673	3.6	0.235
O6	Pearl catfish have high economic value.	0.0628	3.3	0.188
O7	Simple farming techniques that the general public can comprehend	0.0528	2.8	0.148
	Total			1.475
	Threats			
T1	Location far from the city centre	0.0673	1,6	0,108
T2	conflict over land used	0.0520	1,8	0,094
T3	Increased land rental costs	0.0573	1,6	0,092
T4	Lack of capital assistance	0.0628	1,4	0,088
T5	Long droughts or unpredictable weather have an impact on output.	0.0673	1,4	0,094
T6	The rainy season intensifies competition with neighboring regions.	0.0673	1,1	0,074
T7	The rainy season increases competition with nearby areas.	0.0628	1,2	0,075
T8	Lack of security around farming areas	0.0673	1,2	0,081
T9	There is no guarantee that a catfish farming programme will survive and thrive.	0.0628	1,6	0,100
	Total	1		805
	Total Matriks EFE			2.281

Based on the results of identifying external aspects, factors that can affect the sustainability of the panca wargi fish group's business are obtained. In Table 1, the total EFE matrix score is 2,281, which means that the panca wargi fish group has the sensitivity to respond to opportunities and threats well. The open market opportunity is considered as one of the most important opportunities, because it expects a change that attracts opportunities in the form of increased market demand for a product.

The threat of increased competition in the rainy season occurs because the panca wargi fish group stands in a strategic location that allows them not to experience problems with water supply in the dry season, which allows them to become the main supplier in several locations at once. Meanwhile, during the rainy season, many competitors use it to fertilise dry land that can be used as new farming sites for competitors to increase their production, which results in intense competition on prices and decreased demand.

Table 2. IFE Matrix of Panca Wargi Fish Group

	Strength	Weight	Rating	Score
S1	Low Ph water quality of 7-8 which is good and stable for farming	0,0812	3.8	0,308
S2	Has used intensive farming techniques	0,0712	3.3	0,235
S3	Quality broodstock from BBI Subang	0,0712	3.5	0,249
S4	Using a mixture of worm and pellet feed	0,0712	3.3	0,235
S5	Potential farming land is still wide.	0,0657	3.0	0,197
S6	Catfish waste management system as fertiliser	0,0712	3.3	0,235
S7	The surrounding community has the desire to do business	0,0712	3.0	0,214
	Total			1.673
	Weakness (Kelemahan)			
W1	Not all farmers use mixed feed	0,0757	1,3	0,098
W2	High cost of using artificial feed	0,0712	1,4	0,100
W3	Lack of technology mix	0,0657	1,4	0,092
W4	The number of fish collectors decreases in the rainy season	0,0757	1,2	0,091
W5	Management skills not yet mastered by all members	0,0657	1,5	0,099
W6	Lack of production continuity	0,0712	1,3	0,093

W7	Limited capital for sustainable development	0,0722	1,2	0,087
	Total	1		658
	Total Matriks IFE			2.331

Based on the results of identifying internal aspects, factors that can affect the sustainability of the panca wargi fish group's business are obtained. In Table 2, the total score of the IFE matrix is 2,331, which means that the panca wargi fish group has sensitivity in understanding existing strengths and weaknesses. Water quality with low ph is an important aspect of strength and has a dominant effect on the smooth running of the farming process, considering that water conditions can affect the probability of catfish survival.

The broodstock used greatly affects the survival and quality of the catfish produced. Unfortunately, due to cost constraints and long travelling distances, not all members of the panca wargi group have used quality broodstock from BBI Subang.

		TOTAL WEIGHT SCORE IFE		
		<i>Strong</i> 3,00-4,00	<i>Average</i> 2,00-2,99	<i>Weak</i> 1,00-1,99
TOTAL WEIGHT SCORE EFE	High 3,00-4,00	4,00 3,00 I (Grow and Build)	3,00 2,00 II (Grow and Build)	2,00 III (Hold and Maintain)
	Medium 2,00-2,99	IV (Grow and Build)	V (Hold and Maintain)	VI (Harvest and Diverst)
	Low 1,00-1,99	VII (Hold and Maintain)	VIII (Harvest and Diverst)	IX (Harvest and Diverst)

Figure 3. IE Matrix of Panca Wargi Fish Group

Based on the Internal and External Matrix (IE) in the figure above, the results of the External Factor Evaluation Matrix (EFE) Table 1 and the Internal Factor Evaluation Matrix (IFE) Table 2 are obtained. Panca Wardi Fish Group occupies cell position V, which means that the group is in a condition that must maintain and maintain business continuity. Based on the results of the total score of internal aspects of 2,331 and external aspects of 2,281, it was decided that the right strategy for position V is market penetration and product development with the main objective of maintaining stable business growth.

Table 3. Matriks SWOT/TOWS

Table 3. Matrixes SWOT/TOWS		
IFE	Strengths	Weaknesses
	Low Ph water quality of 7-8 is good and stable.	Not all farmers use mixed feed
	Has used intensive farming techniques	High cost of using artificial feed
	Quality broodstock from BBI Subang	Lack of technology mix
	Using mixed feed of worms and pellets	The number of fish collectors decreases in the rainy season
	Potential farming land is still large.	Management skills not yet mastered by all members
	Catfish waste management system as fertiliser	Lack of production continuity
EFE	The surrounding community has the desire to do business	Limited capital for sustainable development
Opportunities	Strategi SO	Strategi WO
Market prospects are still untapped	Optimise farming productivity through the development of farming methods, land utilisation and community will.	Provide training and create a Standard Operating Procedure (SOP) to optimise farming productivity.
Public understanding of the	Widen the market through the	

value of animal protein has increased The presence of fish as an alternative source of animal protein to meat Underutilisation of natural farming zones Customers have high trust and loyalty Pearl catfish have high economic value. Simple farming techniques that the general public can comprehend	development of sales distribution channels. Adding variants of catfish to acquire new markets.	Improve the technology mix in promoting products through the internet. Complete business legality aspects.
Threats Location far from the city centre Conflict over land used Increased land rental costs Lack of capital assistance Long droughts or unpredictable weather have an impact on output. The rainy season intensifies competition with neighboring regions. The rainy season increases competition with nearby areas. Lack of security around farming areas There is no guarantee that a catfish farming programme will survive and thrive.	Strategi ST Expansion of new farming land to optimise existing potential. Conducting product differentiation. Collaborate with communities and other groups to maximise existing potential.	Strategi WT Incorporate cultivated land to avoid conflicts and increased rental costs. Submitting business proposals to investors to assist in the development of aquaculture businesses. Utilisation of organic materials as an alternative to fish feed.

Based on the results of the SWOT/TWOS Matrix in Table 3, fourteen alternative strategies were obtained. Each part of the strategy is obtained through the combination of two factors as a basis for consideration. This matrix, detects threats before opportunities which are then implemented into four cells of alternative strategies, namely strength-opportunity, weakness-opportunity, strength-threat, and weakness-threat.

Quantitative Strategic Planning Matrix (QSPM)

Establishing the primary strategy will be made easier with the use of the Quantitative Strategic Planning Matrix (QSPM). The winning strategy is a strategy that has advantages in taking advantage of opportunities, minimizing threats, and can maximize the strengths and minimize the weaknesses of the Panca Wargi Fish Group. Panca Wargi Fish Group. QSPM matrix analysis helps in prioritizing strategies based on the level of potential of the internal and external environment. The results of the group priority rating can determine other options. The results of the QSPM calculation show the group's alternative priority strategies based on the level of importance or urgency of the group's weaknesses, as shown in table 4.

Table 4. Quantitative Strategic Planning Matrix (QSPM)

No	Factors	Weight	Alternative Strategy		
			AS	TAS	Rank
1	Optimizing farming productivity through the development of farming methods, land utilization and community desires	0,118	4	0,472	I
2	Widening the market through the development of sales	0,088	3	0,264	V

	distribution channels				
3	Adding variants of catfish to obtain new markets	0,058	2	0,116	XII
4	Provide training and create a Standard Operating Procedure (SOP) to optimize farming productivity.	0,103	4	0,412	II
5	Improving the technology mix in promoting products through the internet	0,068	2	0,136	X
6	Complete business legality aspects	0,076	3	0,228	VIII
7	Expansion of new farming land to optimize existing potentials	0,93	4	0,372	IV
8	Perform product differentiation	0,063	2	0,126	XI
9	Collaborate with other communities and groups to maximize existing potential.	0,078	3	0,234	VII
10	Merging farming land to avoid conflicts and increased rental costs	0,070	3	0,210	IX
11	Submitting business proposals to investors to assist in the development of aquaculture businesses.	0,098	4	0,392	III
12	Utilization of organic materials as an alternative to fish feed.	0,083	3	0,249	VI
	Total	1		3.09	

Based on the results of Table 4, the QSPM matrix is obtained with a TAS (Total Attractiveness Score) value which describes the priority scale arrangement of alternative strategies that can be used by the panca wargi fish group to get the best development results. The highest TAS result of 0.472 was obtained by optimizing cultivation productivity through the development of cultivation methods, land use, and the desire of the community to do business, this strategy is very important to be able to keep the supply chain always available to accommodate the market, improve the regional economy, and help the panca wargi fish group to be able to carry out sustainable development. This strategy has the highest score because it can have the greatest impact.

The next priority strategy is to provide training and create a Standard Operating Procedure (SOP) with a value of 0.412, this strategy is considered to be able to help groups standardize, stabilize, and optimize the productivity of catfish farming. The next strategy is to submit a business proposal to investors with a value of 0.412, this strategy can help the group in overcoming the capital problems that are being faced, as well as help in increasing the productivity of cultivation and maximizing digital marketing. New land expansion is needed to increase cultivation productivity, this strategy has a TAS of 0.372 because it is considered to help the panca wargi fish group to dominate the market in the dry season which allows the group to earn more profit. Widening the market through the development of sales distribution channels has a TAS value of 0.264 because the panca wargi fish group only has distribution channels with collectors, so additional channels are needed such as working with other farmers, ornamental fish shops, fish markets, and fishing ponds.

The strategy of utilizing organic materials as alternative feed has a TAS value of 0.249 because it will be a solution to reduce the high cost of artificial feed in the long term, this strategy has been implemented by some of the cultivators of the Panca Wargi fish group, organic materials are obtained from the market and surrounding plantations, but utilization has not been maximized and still needs to be developed in its management. Collaborating can optimize strengths and capture opportunities that come, this strategy has a TAS value of 0.234 because it can encourage group creativity and innovation, a source of information, and help in learning and group development.

Completing the legality aspect has a TAS of 0.228 because legality is very important for groups to avoid unwanted things, guarantee consumer confidence, and facilitate the process of obtaining external capital assistance. The strategy of combining cultivation land has a TAS of 0.210 because it will be able to help overcome the problems of land use

conflicts and increased rental costs, and can optimize land use, this strategy is obtained from consideration of existing weaknesses and threats. The strategy to increase the technology mix in promoting products via the internet has a TAS of 0.136 because although this strategy is very important in increasing group sales, some group members have implemented this strategy, but its utilization is still not optimal and is done individually, so there is no special social media account owned by the panca wargi fish group.

The product differentiation strategy has a TAS of 0.126 because although product differentiation is very important in competition, but in a perfectly competitive market, this strategy is very difficult and has limited options, especially in fish farming, so this strategy is not prioritized first. The last strategy is to add variants of catfish to be able to obtain new markets with a TAS value of 0.116, this strategy is terminated because it considers that pearl catfish itself still has great potential to continue to grow, so the addition of other types of catfish is not necessarily productive for the development of the group, but this strategy can be an alternative to avoid and minimize the threat of overly competitive competition.

CONCLUSION

In this strategy planning, the IFE Matrix and EFE Matrix have described the internal and external aspects of the group as a basis for strategy design. While the results of the Internal and External Matrix (IE), it is obtained that the group's condition is in position V which leans towards market penetration and product development strategies aimed at maintaining the stability of the group's business growth. The V position of the panca wargi fish group indicates that the internal and external aspects have almost equal strength, which in the long run will lead to stagnant business development, which may turn out to be dangerous in the future.

Optimizing the use of strategies has been achieved by compiling the top twelve alternative strategies based on TAS value using the TOWS and QSPM matrices. By formulating an appropriate strategy, Panca Wargi Fish Group can achieve optimal business development outcomes. It is thus advised that the Panca Wargi fish group's management decide on the best course of action going forward right away.

REFERENCE

- Abdussamad, Z. (2021). Metode Penelitian Kualitatif - Dr. H. Zuchri Abdussamad, S.I.K., M.Si. In P. Rapanna (Ed.), *CV. syakir Media Press* (1st ed.). CV. syakir Media Press. https://books.google.co.id/books?hl=en&lr=&id=JtKREAAQBAJ&oi=fnd&pg=PR5&dq=metode+penelitian&ots=vDCtyS45P0&sig=DGkDYf3OwsEYPbB69HrdHVx6Y7I&redir_esc=y#v=onepage&q=metode+penelitian&f=false
- Andrade, C. (2020). The Inconvenient Truth About Convenience and Purposive Samples. *Sage Journals*, 43(1), 86–88. <https://doi.org/10.1177/0253717620977000>
- Anis, M. Y., & Hariani, D. (2019). Pemberian EM4 (Effective Microorganisme 4) Hasil Kultur dalam Media yang Berbeda pada Pakan untuk Budi daya Lele (*Clarias sp.*). *Jurnal Riset Biologi Dan Aplikasinya*, 1(1), 1. <https://doi.org/10.26740/jrba.v1n1.p1-8>
- Ba Hung Anh, D., & Hoang Tien, N. (2020). QSPM matrix based strategic organizational diagnosis. A case of Nguyen Hoang Group in Vietnam. *International Journal of Multidisciplinary Research and Growth Evaluation*, Accepted(June), 67–72. www.allmultidisciplinaryjournal.com
- Banka, M., Tien, N. H., Thi, M., Dao, H., & Minh, D. T. (2023). Analysis of business strategy of real estate developers in Vietnam : The application of QSPM matrix Analysis of business strategy of real estate developers in Vietnam : The application of QSPM matrix Page No: 188-196. *International Journal of Multidisciplinary Research and Growth Evaluation*, 03(January 2022), 188–196.

- https://www.researchgate.net/publication/358021910_Analysis_of_business_strategy_of_real_estate_developers_in_Vietnam_The_application_of_QSPM_matrix
- Benzaghta, M. A., Elwalda, A., & Mousa, M. M. (2021). SWOT analysis applications : An integrative literature review. *Journal of Global Business Insights (JGBI)*, 6(1), 55–73. <https://doi.org/10.5038/2640-6489.6.1.1148>
- Bull, J. W., Jobstvogt, N., Böhnke-Henrichs, A., Mascarenhas, A., Sitas, N., Baulcomb, C., Lambini, C. K., Rawlins, M., Baral, H., Zähringer, J., Carter-Silk, E., Balzan, M. V., Kenter, J. O., Häyhä, T., Petz, K., & Koss, R. (2016). Strengths, Weaknesses, Opportunities and Threats: A SWOT analysis of the ecosystem services framework. *Ecosystem Services*, 17, 99–111. <https://doi.org/10.1016/J.ECOSER.2015.11.012>
- Christodoulou, A., & Cullinane, K. (2019). Identifying the main opportunities and challenges from the implementation of a port energy management system: A SWOT/PESTLE analysis. *Sustainability (Switzerland)*, 11(21). <https://doi.org/10.3390/su11216046>
- David, F. R., & David, F. R. (2017). Strategic Management: A Competitive Advantage Approach. In *Pearson Education Limited* (Vol. 1).
- David, M. E., David, F. R., & David, F. R. (2009). the Quantitative Strategic Planning Matrix (Qspm) Applied To a Retail Computer Store. *The Coastal Business Journal*, 8(1), 42–52.
- David, M. E., David, F. R., & David, F. R. (2017). The quantitative strategic planning matrix: a new marketing tool. *Journal of Strategic Marketing*, 25(4), 342–352. <https://doi.org/10.1080/0965254X.2016.1148763>
- Fauziyah, N., Nirmala, K., & Supriyono, E. (2019). EVALUASI SISTIM BUDIDAYA LELE : ASPEK PRODUKSI DAN STRATEGI PENGEMBANGANNYA (Studi Kasus : Pembudidaya Lele Kabupaten Tangerang) Evaluation of Catfish Farming System : Production Aspect and Developmental Strategy . *JURNAL KEBIJAKAN SOSIAL EKONOMI KELAUTAN DAN PERIKANAN*, 129–142. <http://ejournal-balitbang.kkp.go.id/index.php/jkse/article/view/7764>
- Firdaus, M., Maharani, H., & Hafsaridewi, R. (2017). USAHA BUDI DAYA IKAN LELE (clarias sp) PADA KAWASAN MINAPOLITAN “ KAMPUNG LELE ” KABUPATEN BOYOLALI Catfish Aquaculture Bussiness at Minapolitan Area “ Kampung Lele ” in Boyolali District. *BULETIN ILMIAH MARINA : SOSIAL EKONOMI KELAUTAN DAN PERIKANAN*, 021, 79–89. <https://doi.org/http://dx.doi.org/10.15578/marina.v3i2.7188>
- Ghorbani, A., Raufirad, V., Rafiaani, P., & Azadi, H. (2015). Ecotourism sustainable development strategies using SWOT and QSPM model: A case study of Kaji Namakzar Wetland, South Khorasan Province, Iran. *Tourism Management Perspectives*, 16(June 2019), 290–297. <https://doi.org/10.1016/j.tmp.2015.09.005>
- Hakimah, N., Pawestri, W., Suseno, D. N., & Anjarsari, S. W. (2021). Deteksi Residu Oksitetrasiklin pada Ikan Lele yang Dipasarkan di Kota Yogyakarta. *Jurnal Veteriner*, 22(36), 499–507. <https://doi.org/10.19087/jveteriner.2021.22.4.499>
- Iswanto, B., & Suprpto, R. (2015). ABNORMALITAS MORFOLOGIS BENIH IKAN LELE AFRIKA (Clarias gariepinus). *Media Akuakultur*, 10(2), 51–57. <https://doi.org/http://dx.doi.org/10.15578/ma.10.2.2015.51-57>
- Iswanto, B., Suprpto, R., Marnis, H., & Imron, I. (2016). PERFORMA REPRODUKSI IKAN LELE MUTIARA (Clarias gariepinus). *Media Akuakultur*, 11(1), 1–9. <https://doi.org/http://dx.doi.org/10.15578/ma.11.1.2016.1-9>
- Juarsa, R. P., & Sangadah, H. A. (2023). Position Analysis and Strategic Recommendations for Business Improvement in The Micro-Small Industry of Oil Palm Post-Harvest Equipment in Kampar Regency , Riau Province Analisis Posisi dan Rekomendasi Strategis Peningkatan Bisnis pada Industri Mikro Keci. *Industria: Jurnal Teknologi Dan Manajemen Agroindustri*, 12(2), 118–130.

- Li, T. (2020). A SWOT analysis of China's air cargo sector in the context of COVID-19 pandemic. *Journal of Air Transport Management*, 88(August), 101875. <https://doi.org/10.1016/j.jairtraman.2020.101875>
- Mallick, S. K., Rudra, S., & Samanta, R. (2020). Sustainable ecotourism development using SWOT and QSPM approach: A study on Rameswaram, Tamil Nadu. *International Journal of Geoheritage and Parks*, 8(3), 185–193. <https://doi.org/10.1016/j.ijgeop.2020.06.001>
- Phadermrod, B., Crowder, R. M., & Wills, G. B. (2019). Importance-Performance Analysis based SWOT analysis. *International Journal of Information Management*, 44, 194–203. <https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2016.03.009>
- Shri, C., Gupta, M., & Anshu, A. (2015). Strategy Formulation for Performance Improvement of Indian Corrugated Industry : An Application of SWOT Analysis and QSPM Matrix. *The Journal of Applied Packaging Research*, 60–75. <https://scholarworks.rit.edu/japr/vol7/iss3/3/>
- Stone, D. M., Dulohery, K., Scully, D., Campbell, T., & Smith, C. F. (2020). Strength , Weakness , Opportunity , Threat (SWOT) Analysis of the Adaptations to Anatomical Education in the United Kingdom and Republic of Ireland in Response to the Covid-19 Pandemic. *Anatomical Sciences Ed*, 308(June), 298–308. <https://doi.org/10.1002/ase.1967>
- Sumitro, S., Afandi, A., Hidayat, K. W., & Pratiwi, R. (2020). Evaluasi Beberapa Desain Pipa Mikropori Sebagai Sistem Aerasi Dalam Budidaya Ikan Lele (*Clarias gariepinus*) Intensif Berbasis Teknologi Bioflok. *Journal of Aquaculture and Fish Health*, 9(2), 114. <https://doi.org/10.20473/jafh.v9i2.16692>
- Tajerin, T. (2009). Efisiensi Teknis Usaha Budidaya Pembesaran Ikan Lele di Kolam (Studi Kasus di Kabupaten Tulung Agung, Propinsi Jawa Timur). *Economic Journal of Emerging Markets*, 12(1 SE-Articles). <https://doi.org/10.20885/ejem.v12i1.517>
- Widodo, T., Santoso, A. B., Ishak, S. I., & Rumeon, R. (2023). Sistem Kendali Proporsional Kualitas Air berupa Ph dan Suhu pada Budidaya Ikan Lele Berbasis IoT. *Jurnal Edukasi Dan Penelitian Informatika (JEPIN)*, 9(1), 59. <https://doi.org/10.26418/jp.v9i1.59607>
- Wijaya, F., & Adib, M. (2019). Formulasi Perancangan Strategi Pengembangan Usaha Menggunakan Analisis SWOT dan Business Model Canvas. *Jurnal Ilmu Manajemen & Bisnis*, 10(2), 205–211. <https://doi.org/https://doi.org/10.17509/jimb.v10i2.15308>
- Wijaya, F., Aryanti, A. N., & Herlinawati, E. (2023). BUSINESS DEVELOPMENT STRATEGY IN FISH CAGE GROUP (STUDY ON FISH BAMBOO CAGE GROUP IN SUKAJADI DISTRICT, BANDUNG CITY. *AdBispreneur : Jurnal Pemikiran Dan Penelitian Administrasi Bisnis Dan Kewirausahaan*, 08(1), 89–99. <https://doi.org/https://doi.org/10.24198/adbispreneur.v8i1>
- Zulkarnain, A., Wahyuningtias, D., & Putranto, T. S. (2018). Analysis of IFE , EFE and QSPM matrix on business development strategy Analysis of IFE , EFE and QSPM matrix on business development strategy. *IOP Conference Series: Earth and Environmental Science*. <https://doi.org/10.1088/1755-1315/>