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Product Development Supports the Business Strategy of Manufacturing Companies in the Plastic and Packaging Sub-Sector (Case Study: PT. Jerlin Kencana Sakti)

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A B S T R A C T

As a pioneering company in the industrial plastic and packaging sub-sector manufacturing industry in Indonesia, PT Jerlin Kencana Sakti has experienced rapid growth and enjoyed its position at the top of the market; however, recent trends show a decline in sales due to increasingly fierce industry competition. Therefore, this study was conducted with the aim of formulating an appropriate strategy for the company to grow and maintain its position in the market. The method used in the research is a qualitative approach. The analysis methods used are IFE Matrix, EFE Matrix, Porter's Five Forces, IE Matrix, BCG Matrix, QSPM Matrix and Analytic Hierarchy Process (AHP). The results showed that the strategies of market development, market penetration, cost containment and product development are the most suitable strategies for certain customer segments and product A as a priority new product portfolio to be developed.

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INTRODUCTION

Product portfolio management, whether it is an *existing product* portfolio or a *new product development* (NPD) portfolio, is an area of management that has grown to become an important part (Cooper *et al.* 1997a) and for companies facing global competition (Killen *et al.* 2008). As a management tool and part of a business strategy, product portfolio optimization is something that companies must plan and execute to: (1) generate growth (Cooper *et al.* 1997a); (2) business balance (Gorbos, 2016), (Killen *et al.* 2008); (3) maximize customer satisfaction and internal business processes (Lapide 2016) and (4) to create a *link* with the company's main business strategy (Cooper *et al.* 1997a).

Speaking specifically about the new product portfolio / NPD, although business has the risk of uncertainty, requires high operational flexibility, complex and difficult to anticipate (Clark and Fujimoto 1991, Slack *et al.* 2007). The company's ability to generate new product portfolio innovations will increasingly play an important role in creating inorganic growth of the company rather than just *improving/organic growth of* business performance (Relich and Bzdyra, 2014) because currently the average industry has a shorter product life *cycle* (Cooper *et al.* 1997b and Cooper *et al.* 1998).

This article analyzes the development of a new product portfolio that supports the business strategy of PT Jerlin Kencana Sakti, a plastic and packaging sub-sector manufacturing company in Indonesia. The background to the selection of this topic can be seen from two sides. First, from the company's point of view, where PT. Jerlin Kencana Sakti is a business unit part of the emerging plastic and packaging sub-sector manufacturing that is in the business transformation stage. One of the corporate *directions* that has been outlined in the long-term business transformation is for each business unit to be able to grow and develop not only limited to the plastic packaging sector market.

But must continue to look for opportunities well *beyond* the existing industrial plastics packaging sector. This directive requires each business unit to be active in NPD so that 12% of *revenue* each year is expected to come from new products introduced to the market in the last 6 years (Corporate vision book, 2020). Second, from the industry side, where (1) Indonesia has a very promising level of diversity, density, and number of deposits in the industrial plastic packaging sector, making it one of the industries with a very wide range of product portfolios that can be developed; (2) The importance of developing new products for the business growth of plastic packaging sector companies has been stated by several researchers (Wilson and Amavilah, 2007; Katsioleris, 2011; Lismore, 2014; Merriman, 2016).

Since its establishment and started operating in the 2000s, PT. Jerlin Kencana Sakti can be classified as one of the pioneering companies / first movers in the plastic packaging sector business in Indonesia and Unilever as its main customer. However, lately PT Jerlin Kencana Sakti has experienced many challenges from outside and inside the company which resulted in a decrease in the *final/bottom line* indicators of sales performance in 2021 by 15.1% to volume and 4.8% to company *revenue* when compared to 2019 performance. This decline occurred in almost all of

PT. Jerlin Kencana Sakti's product portfolio and in almost all customer industry segments.

On the other hand, the performance of developing PT Jerlin Kencana Sakti's NPD portfolio, which has more added value and is different from competitors' products, still needs to be improved to be in line with the strategic direction of the corporation. PT Jerlin Kencana Sakti's internal data reveals two facts about PT Jerlin Kencana Sakti's NPD performance. First in terms of quantity, in 2020 and 2021 there was a decrease in the number of new product portfolios marketed. Second, in terms of sales *revenue* where only two of the total seven NPDs have relatively managed to grow quite well. With the problems faced by PT Jerlin Kencana Sakti, a business strategy is formulated that is in accordance with the company's current external and internal conditions so that the company continues to grow and maintain its position in the market and a functional strategy is determined in the form of prioritizing NPD choices that must be developed in accordance with the corporate vision and *strategic direction*.

THEORETICAL REVIEW

Business Strategy

Behavioral control, sometimes also referred to as strategic planning (Chung et al., 2000; Goold & Campbell, 1987) or budgetary control (Goold & Quinn, 1990), relies on subjective and strategically relevant criteria to assess business unit activities and measure performance in the context of long-term strategy development progress (Collis & Montgomery, 1998; Goold et al., 1994; Hoskisson & Hitt, 1988; Kownatzki et al., 2013). Behavioral control not only provides checks and balances for business unit strategy development, but also provides a common organizational culture that facilitates collaboration between business units and encourages the creation of synergies. On the downside, behavioral control places more demands, in terms of coordination, on the organization and generally leads to larger corporate headquarters (Collis & Montgomery, 1998). Behavioral control can also cause motivational problems at the business unit level, as the involvement of different hierarchical levels can make the process cumbersome, overly bureaucratic, frustrating and costly (Goold & Campbell, 1987; Kownatzki et al., 2013).

Porter's Five Forces is a strategic analysis framework developed by Michael Porter, a professor from Harvard Business School. This model helps in analyzing industry factors that affect competition in an industry (Porter, 1979) By analyzing these five forces, organizations can understand the competitive dynamics in the industry and develop more effective strategies to face challenges and take advantage of opportunities.

METHODOLOGY

The research was conducted at PT Jerlin Kencana Sakti, which is located in the Jababeka Industrial Estate, Cikarang Bekasi. The selection of the research location was carried out deliberately with the consideration that the management of the company was willing to be the object of research. The implementation of the

research was carried out for two months starting from March to April 2023. The types of data used include primary data and secondary data. Primary data was collected through *in-depth interviews*, filling out questionnaires to the internal management of PT Jerlin Kencana Sakti and external experts from the company. *Focus Group Discussion* (FGD) with experts was conducted to get an agreement on a more complex problem. Expert respondents were selected deliberately with the criteria of practitioners and professionals who have a working relationship with PT Jerlin Kencana Sakti so that more accurate information is obtained. Secondary data in the form of internal company data such as sales data and production data. Other data is obtained from journals, books, and other related sources.

Data processing and analysis are carried out in several stages, namely identification and evaluation of the company's near external, far external and internal environment to obtain important internal-external factors of the company using the IFE and EFE matrix (*input* stage), combining internal and external factor data to obtain alternative strategies available using the BCG matrix and IE matrix (*matching* stage) and then selecting the most suitable strategy using the QSPM Matrix (*decision* stage). The priority of NPD as a functional strategy is analyzed and selected using the AHP method. The research framework is described in Figure 1.

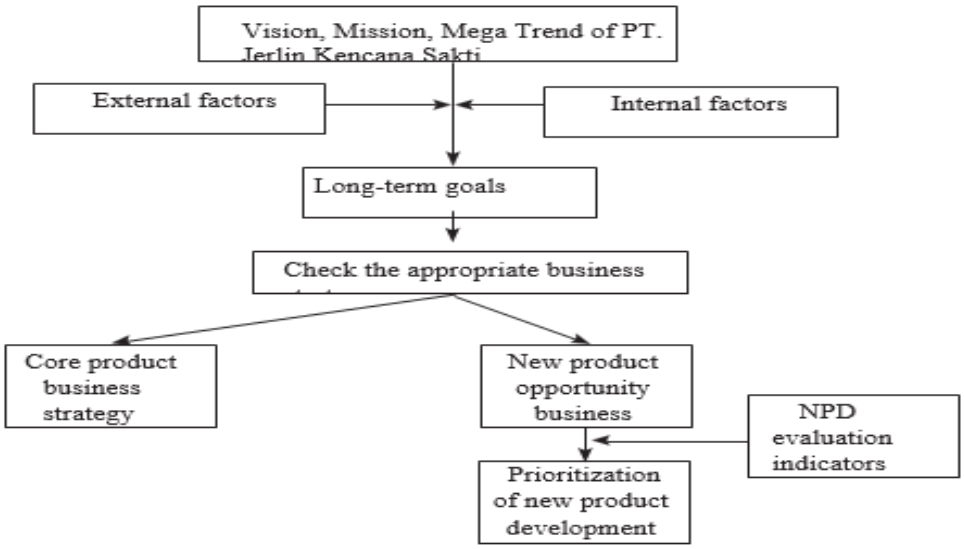


Figure. 1 Research Framework Vision, Mission and Mega Trends Have Been Outlined/Given from the Corporation)

RESULTS

Business Strategy Formulation

Input Stage

This stage aims to identify and evaluate the company's near external, far external and internal environments, in order to generate appropriate alternative strategic inputs. Identification and evaluation of the near external environment using *Porter's Five Forces Matrix* obtained competitive rating data in the industrial minerals industry as shown in Table 1.

Table 1. *Five Forces Porter Matrix of the* Industry Environment of PT. Jerlin Kencana Sakti

	Rating	
	Profitable	
External factors near	◄	►
	SU	SA
Inter-firm rivalry.		→
Bargaining powercustomers		
Bargaining powersupplier	→	
Threat of productsubstitution		
Threat of newentrants		

V : current rating : rating 3-5 years in the future SU : Very favorable; SA: very threatening; N: normal.

The shift in rivalry factors between companies will become more threatening to the industry in the future for several reasons, namely 1) the nature of the products demanded by customers is very standardized, 2) the gap in competence, technology and access to raw materials is getting thinner between competing companies, and 3) the potential entry of two new competitors into the industry. On the supplier bargaining power side, it is predicted that it will reduce industry profits due to the issue of over-exploitation by suppliers and the majority of suppliers do not have advanced processing at the mine so that the sustainability of the supply of quality raw materials will be disrupted. The evaluation of near and far external factors was carried out using the EFE Matrix with the results shown in Table 2. For opportunity factors, the highest weight value based on the internal panel assessment was the bankruptcy of one local competing company with a weight of 0.15. According to the author's analysis, this is in line with the evaluation of the external factor matrix, especially the inter-company rivalry factor, which is considered likely to threaten industry players in the future. The slightest business problem faced by a competitor will become a significant opportunity that greatly benefits other companies. The opportunity factor with the next highest weight value is the projected growth of the Indonesian plastic packaging industry with a weight of 0.1 and the ban on imports of plastic ore raw materials from China by the Indonesian government. with the same weight of 0.1. Both of these opportunity factors come from the ceramic tile market segment, which is the main market segment with the largest percentage of sales for the plastic packaging industry in Indonesia. Increased production at key market segment customers will certainly affect the increase in sales of industrial plastics to these customers and will be a very profitable opportunity for the company.

The response that has been given by PT Jerlin Kencana Sakti to take advantage of external opportunities can be seen in the value column in the EFE Matrix. Some strategic steps have been carried out very well by PT Jerlin Kencana Sakti to take advantage of external opportunity factors, especially no. 1, 4, 5 and 6,

namely conducting a special competitive price strategy for plastic packaging customers who get projects from Unilever. This strategic step is considered very satisfying by the expert panel in PT Jerlin Kencana Sakti's efforts to take advantage of the projected growth opportunities of the plastic packaging industry in 2019-2023; Obtaining a limited export license for clay materials. This step is very strategic for the business growth of the plastic packaging segment of the export market when the limited export of industrial plastic packaging has been opened by the Indonesian government; Regaining the sales volume that has been taken by competitors who have gone out of business through a mutual trust approach; Providing flexible delivery services for customers who get overflow orders due to the import ban from China. With this flexibility, some production problems at customers are resolved and improve customer relations-PT. Jerlin Kencana Sakti.

For threat factors, the highest weight value based on the internal panel assessment is the potential competition due to the entry of new entrants and the potential for backward integration from the main customer of PT Dasaplast Nusantara with a sequential weight of 0.1, 0.12 and 0.12. According to the author's analysis, the high weighting value given by the internal panel is in line with the assessment in the evaluation matrix of external factors near the potential entry of new competitors, which the internal panel considers will threaten the company's business continuity.

Table 2. EFE Matrix of PT. Jerlin Kencana Sakti

Opportunities	Weight	Value	Score
Projected growth of the packaging plastic industry	0,1	4	0,4
Projected growth of the Iplastic industry	0,05	1	0,05
Capacity building of the CPO industry	0,05	1	0,05
Limited export	0,08	4	0,32
One local competitor went bankrupt	0,15	4	0,6
Import ban on ceramic raw materials by the Indonesian government	0,10	4	0,4
Threat			
Y global corporations have entered market in Indonesia	0,1	1	0,10
Two local competitors are building plastic production facilities	0,12	1	0,12
There is synergy among Indonesia's industrial plastic *traders*	0,04	4	0,16
Mica companies in Indonesia are expanding into the industry	0,04	4	0,16
Bubbling premium home prices	0,05	3	0,15
Backward integration of important customers	0,12	1	0,12
Total	1,0		2,63

The responses that have been given by PT Jerlin Kencana Sakti to minimize external threats can be seen in the value column in the EFE Matrix. Some strategic steps have been carried out very well by PT Jerlin Kencana Sakti to minimize external threat factors, especially no. 3, 4 and 5, namely obtaining a long-term purchase contract from one of the quality sand suppliers. This step is very strategic to minimize the impact caused by the strategic synergy of raw material traders who try to get excessive profits from the plastic ore price game; Continue to establish close relationships with customers who have been doing business with PT Jerlin Kencana Sakti. The close relationship is carried out with joint product

development and factory visits/assessments by customers. This step is very effective in forming strong bonds with customers and preventing the entry of new entrants who do not have core competencies in manufacturing; Has carried out a product-mix strategy between premium class, middle class and lower class customers. The product mix has proven effective in minimizing the effects of the current premium packaging bubbling condition.

The results of the EFE matrix analysis, with a total score of 2.63, PT Jerlin Kencana Sakti is considered to be quite effective in utilizing opportunities and overcoming important threats from outside the company. To bring PT Jerlin Kencana Sakti to a higher level, management must focus more on strategies to respond to threat factors, especially the potential entry of new competitors (both local and global) and backward integration by one of the company's important customers.

Evaluation of internal factors was carried out using the IFE Matrix with the results as shown in Table 3. For strength factors, the highest weight value is the product quality factor which is perceived as very good and consistent by the main customers, especially the plastic pack segment with a weight of 0.08. According to the author's analysis, this is in line with the information that the plastic pack market segment as the main market segment of PT Jerlin Kencana Sakti must be maintained so that the company can maintain its position as the market leader in the segment. The second biggest strength is the location of the factory which is relatively closer to the majority of plastic packaging segment customers with a weight of 0.07, which is certainly a comparative advantage for PT. Jerlin Kencana Sakti in providing products with better logistics costs and flexibility in shipping operations.

Table 3. IFE Matrix of PT Jerlin Kencana Sakti

Power	Weight	Value	Score
Technical and innovation center support	0,03	3	0,09
Diversified industrial plastic portfolio	0,04	3	0,12
Good relationship with customers	0,03	3	0,09
High level of customer satisfaction with quality	0,08	4	0,32
Very strong product branding	0,03	3	0,09
Sufficiently high production flexibility	0,05	4	0,2
Strong financial support.	0,02	3	0,06
Solid *marketing team*	0,03	3	0,09
Factory location close to customers	0,07	4	0,28
The depreciation value of the machine is already small	0,02	4	0,08
Weaknesses			
Globally centralized strategic decision-making process.	0,03	2	0,06
High administrative cost component	0,1	1	0,1
High raw material cost component.	0,15	2	0,30
Does not have its own mining source	0,12	2	0,24
Machine breakdowns occur quite frequently	0,05	2	0,1
Low level of customer satisfaction with price	0,15	2	0,3
Total	1,0		2,52

The response that has been given by PT Jerlin Kencana Sakti to utilize the company's strengths can be seen in the value column in the IFE Matrix. Some strategic steps have been carried out very well by PT Jerlin Kencana Sakti to take advantage of the company's strength factors, especially no. 4, 6, 9 and 10, namely Obtaining a long-term purchase contract from one of the quality plastic ore suppliers. This step is very strategic to maintain customer perception of product quality reliability compared to local competitors. To ensure the reliability of product quality, PT Jerlin Kencana Sakti has also invested in capable plastic industry quality testing equipment so that all products comply with customer requirements; Implemented a production strategy including several new product trials in each production line. This production strategy is considered to be able to utilize the power of production flexibility in order to seize several new product opportunities; Making shipments using bulk trucks which are much more economical than specific packaging (jumbo bags or paper bags). This step makes shipping costs lower than other competitors and can provide a sense of security in the aspect of supply-ability.

For the weakness factors, the highest weight values based on the internal panel assessment are the administrative cost component including occupational safety and health which tends to be quite high; the production cost component for raw materials is quite high; the level of customer satisfaction with product prices is at the "less" level and the factor that PT Jerlin Kencana Sakti does not have its own industrial plastic ore mining source with a weight value of 0.1, 0.15, 0.15 and 0.12 respectively. The first three weakness factors are closely related to the level of production costs, where in an industry where the majority of products are standardized and many customers are price sensitive, the company must carry out a low cost strategy (David, 2011), so if production costs are considered high, it will become a weakness factor and must be corrected so that the company can continue to compete in the industry. The fourth factor is that PT Jerlin Kencana Sakti does not have its own industrial plastic ore mining source with the largest volume. This factor is given a high weight in line with the internal panel's assessment of the supplier bargaining power factor evaluation where in the future there will be fewer suppliers who can deliver plastic ore with good quality and competitive prices. In addition, the cost component of plastic ore raw materials is a fairly high cost component in PT Jerlin Kencana Sakti's production cost. An increase in the price of plastic ore raw materials will further increase production costs significantly.

The results of the IFE matrix analysis, with a total score of 2.52 PT Jerlin Kencana Sakti is considered to be quite effective in utilizing strengths and improving to overcome the company's important weaknesses. To bring PT Jerlin Kencana Sakti to a higher level, management must focus more on strategies to respond to the weakness factors of the company's high production and administrative costs.

DISCUSSION

The Matching Stage

From the results of the EFE matrix which received a value of 2.63 and the IFE matrix with a value of 2.52, it can be determined that the position of PT Jerlin Kencana Sakti in the IE Matrix is in the hold and maintain quadrant as shown in Figure 2. The appropriate alternative business strategies are market penetration and product development (David, 2011). The company's alternative business strategies generated by the IE Matrix are analyzed for alignment with alternative business strategies per customer segment using the BCG Matrix presented in Figure 3. From the BCG matrix of PT Jerlin Kencana Sakti, the following alternative business strategy options are recommended (David, 2011): Product development strategy, cost tightening, diversification, or divestiture for the plastic pack (PP) segment which is in quadrant III (cash cow). The cost tightening strategy (S1) was chosen as the most suitable strategy because there were several inefficiencies in the production process and a high frequency of machine breakdowns, causing the company's production costs to increase. Although PT Jerlin Kencana Sakti's core competency is in this segment, due to these inefficiencies, it is difficult for the company to achieve higher profits as expected by the corporate. The choice of this cost-tightening strategy is in line with and supports the market penetration strategy generated by the IE Matrix, where market penetration requires room for a price strategy that can be more competitive in the market (Ansoff and McDonell, 1990).

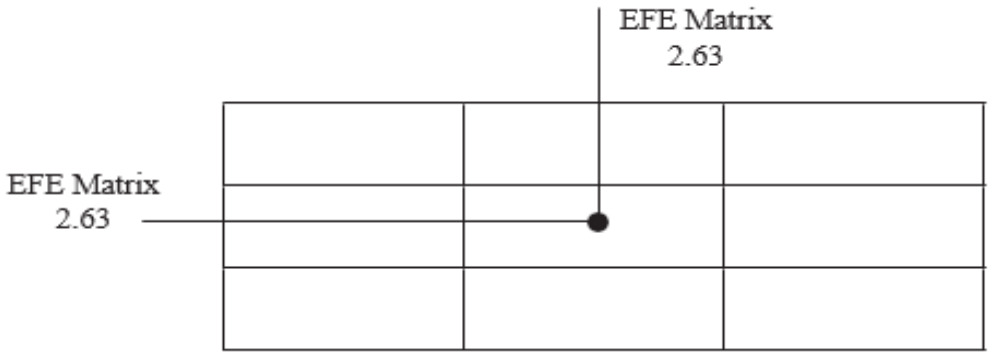


Figure 2. IE Matrix of PT Jerlin Kencana Sakti

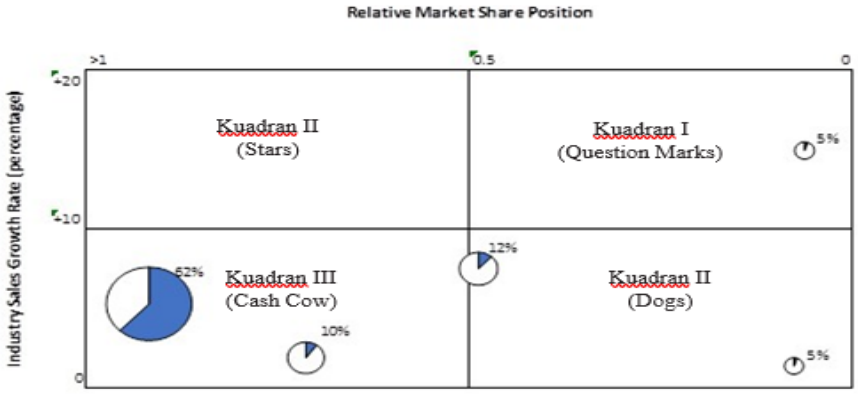


Figure 3. BCG Matrix of PT. Jerlin Kencana Sakti

Cost-cutting, divestiture or liquidation strategies for the Poly Draw Bag (PDB) segment which is in quadrant IV (dogs). The cost tightening strategy (S2) is considered the most suitable to be implemented to correct existing inefficiencies until the market segment returns to good growth. The divestiture and liquidation strategies are also considered suitable for implementation, but the decision authority for these strategies is at the corporate level.

Market penetration, market development and product development strategies for the Soft Loop Handle Bags (SLHB) segment are in quadrant I (question marks). These three strategies (S3) are suitable for selection after considering the well-developed industrial conditions of customers, very open to getting quality plastic supplies from local suppliers and internally PT. Jerlin Kencana Sakti has not intensified marketing activities to potential local customers.

Product development, cost containment, diversification, or divestiture strategies for the Patch Handle Bags (PHB) segment which is in quadrant III (cash cows). The product development strategy (S4) is preferred over other alternatives even though the customer's industry is growing at a modest rate but is open and expecting new products that can improve the quality of their products.

The alternative strategies for each business segment resulting from the BCG Matrix analysis are quite in line with the company's alternative business strategies resulting from the IE Matrix analysis. The only difference lies in the alternative market development strategy for the paint and coating (CC) market segment because the market growth of the CC industry segment is very high far above the average market growth of other industry segments.

Decision Stage

The decision on which business strategy to choose is based on the relative attractiveness of one strategy compared to another. Quantitative assessment methods for comparing options strategy options available using the QSPM Matrix. (S1 - S4) generated by the BCG Matrix analysis. Each strategy is assessed for its attractiveness for PT Jerlin Kencana Sakti based on the company's key factors generated from the input stage. The results of the QSPM Matrix analysis of PT Jerlin Kencana Sakti are presented in Table 4.

Table 4. QSPM Matrix of PT. Jerlin Kencana Sakti

Factor	Weight	S1		S2		S3		S4	
		US	TAS	US	TAS	US	TAS	US	TAS
Opportunities									
Plastic industry growth projections	0,1	4	0,4	1	0,1	2	0,2	3	0,3
Plastic limited export opening	0,08	4	0,32	1	0,08	1	0,08	3	0,24
One local competitor went bankrupt	0,15	4	0,6	1	0,15	2	0,3	3	0,45
Ban on import of raw materials by the Indonesian government	0,10	4	0,4	1	0,1	2	0,2	3	0,3
Threat									
Global corporate Y has entered the market in Indonesia	0,1	3	0,3	1	0,1	2	0,2	4	0,4
Two local competitors are building Plastic production facilities	0,12	1	0,12	2	0,24	3	0,36	4	0,48
There is a synergy of Indonesian plastic industry traders	0,04	2	0,08	1	0,04	4	0,16	3	0,12
Mica companies in Indonesia are expanding into the industry	0,04	2	0,08	1	0,04	3	0,12	4	0,16
Premium price bubbling	0,05	3	0,15	1	0,05	2	0,1	4	0,2
Backward integration of important customers	0,12	2	0,24	4	0,48	3	0,36	1	0,12
Power									
Global technical and innovation center support	0,03	2	0,06	1	0,03	4	0,12	3	0,09
High level of customer satisfaction with quality and consistency	0,08	4	0,32	1	0,08	2	0,16	3	0,24
Sufficiently high production flexibility	0,05	2	0,1	1	0,05	4	0,2	3	0,15
Strong financial support	0,02	2	0,04	1	0,02	4	0,08	3	0,06
Solid marketing team	0,03	-		-		-		-	
Factory location close to customers	0,07	4	0,28	1	0,07	2	0,14	3	0,21
Weaknesses									
High administrative cost component	0,1	1	0,1	2	0,2	4	0,4	3	0,6
High raw material cost component	0,15	1	0,15	2	0,3	4	0,6	3	0,45
Does not have its own raw materials	0,12	1	0,12	2	0,24	4	0,48	3	0,36
The level of customer satisfaction with the product price is 60 (max. 100) with a sufficient grade	0,15	1	0,15	2	0,3	4	0,6	3	0,45
TOTAL			4,01		2,67		4,86		5,38

The results of the QSPM Matrix analysis, the rank order for the four alternative strategies available are as follows: 1) New product development strategy for the Patch Handle Bags segment with a TAS value: 5,38. This strategy can be implemented by more actively marketing new portfolio options from corporate or utilizing the support of global technical and innovation centers to develop products;

Market development strategy, market penetration and new product development for Soft Loop Handle Bags segment with TAS value: 4,86. This

strategy can be implemented by expanding the marketing network and utilizing the support of global technical and innovation centers to develop new products; 3) Cost tightening strategy for the plastic pack segment with a TAS value: 4,01. This strategy can be carried out by improving inefficiencies that occur within PT XYZ in the operational and administrative sections; 4) Cost tightening strategy for the Poly Draw Bag segment with a TAS value: 2,6. This strategy can be done by fixing inefficiencies that occur within PT XYZ in the operational and administrative departments.

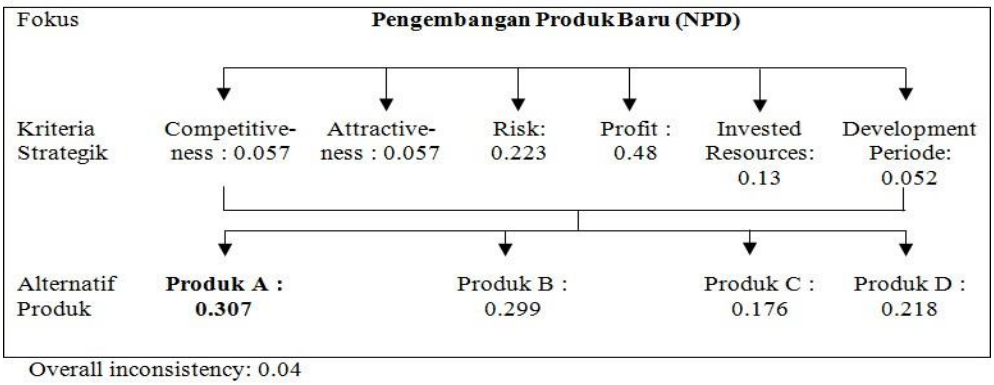
New Product Development

The product development strategy which is the top priority strategy of PT Jerlin Kencana Sakti is then analyzed more deeply to find a suitable functional strategy. The initial key step according to Cooper et al. (1997a) is the selection of the right product (do the right project) from among all candidate portfolios. The product development strategy which is the top priority strategy of PT Jerlin Kencana Sakti is then analyzed more deeply to find a suitable functional strategy. The initial key step according to Cooper *et al.* (1997a) is the selection of the *right* product (*do the right project*) from among all candidate portfolios.

The product development strategy which is the top priority strategy of PT Jerlin Kencana Sakti is then analyzed more deeply to find a suitable functional strategy. The initial key step according to Cooper *et al.* (1997a) is the selection of the *right* product (*do the right project*) from among all candidate portfolios.

Table 5. Summary of AHP Pairwise Comparison Analysis Results

Criteria / Products	Product A	Product B	Product C	Product	DTotal
Competitiveness	0,077	0,605	0,085	0,223	0,057
Attractiveness	0,549	0,102	0,297	0,053	0,057
Risk	0,070	0,450	0,064	0,415	0,223
Profit	0,551	0,131	0,274	0,044	0,480
Invested Resource	0,056	0,433	0,098	0,413	0,130
Development period	0,071	0,529	0,075	0,325	0,052
Total	0,307	0,299	0,176	0,218	1,0



Overall inconsistency: 0.04

Figure 5. Results of AHP Analysis of PT Jerlin Kencana Sakti's NPD Strategy

The results of the AHP analysis, it can be concluded that PT. Jelin Kencana Sakti makes profit as the main strategic indicator with a value of 0.48 followed by risk with a value of 0.223, and invested resources with a value of 0.13 completing the top three most important indicators in the development of a new product. This result reflects the characteristics of the NPD team of PT Jerlin Kencana Sakti, which is more concerned with performance and financial risk in making a decision about NPD (Pinto and Matel, 1990; Freeman and Bale, 1992; Cooper and Kleinschmidt, 2007; Pitta and Pitta, 2012; Park et al. 2016).

Using multi-criteria analysis of the available new product options, the order of prioritization of products to be developed is obtained as follows: First priority is new product candidate A with a value of 0.307; Second priority is new product candidate B with a value of 0.299; Third priority is new product candidate D with a value of 0.218; Fourth priority is new product candidate C with a value of 0.176.

The development of Product A as a priority at PT Jerlin Kencana Sakti does not necessarily leave the development of products B, D and C. The prioritization value of new product development above can be used as a basis for consideration to determine the distribution of resource allocation in the R&D program (additional investment, human resources) as well as the development time required in the development process to run better (Cooper and Kleinschmidt, 2007).

Managerial Implications

The results of the strategy formulation analysis describe the strengths, weaknesses, opportunities and threats as well as strategies that the company can carry out in the next five years in competing in the Plastic Packaging Industry business in Indonesia. Based on the results of the analysis in the formulation of business strategies and prioritization of new product development that has been carried out, PT Jerlin Kencana Sakti needs to prepare an annual sales budget with a more aggressive portion. The budget prepared at least reflects the existing business growth plan plus potential business growth opportunities through share development strategies, market penetration and product development. Furthermore, make a business proposal for new product development based on the prioritization of products to be developed. In addition, it is necessary to review the organization and resources in the department that carries out NPD with consideration of the addition of new workloads and create a risk mitigation plan for product development strategies that have a high level of risk (product A and product C).

CONCLUSIONS AND RECOMMENDATIONS

The results of analyzing various external-internal factors to the stage of formulating the company's business strategy, there are four strategies that can be implemented by PT Jerlin Kencana Sakti in competing in the plastic industry in Indonesia in order of *attractiveness* as follows: 1) New product development strategy for *Patch Handle Bags* segment, 2) Market penetration, market development and product development strategy for *Soft Loop Handle Bags* segment, 3) Cost

retrenchment strategy to support market penetration of plastic pack segment and 4) Cost *retrenchment* strategy for *Poly Draw Bag* segment. On the basis of the weighted score of each strategic criterion used, the highest prioritization of NPD in order to support product development strategy is product A. The weighted score of each NPD portfolio obtained can be used as a consideration for resource allocation for R&D programs.

ADVANCED RESEARCH

To further enrich the results of this study, it is recommended to obtain external respondents, especially from the government as a coach and regulator and from associations and experts. To expand on the results of this study, the researcher suggests discussing functional strategies suitable for industrial plastic packaging, namely market development strategies and market penetration strategies based on marketing and cost-cutting approaches. In addition, it is suggested to further analyze the sustainability issues related to the ongoing over exploitation of plastic ore considering that the industry is highly dependent on non-renewable natural resources.

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