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Proposed Decision Making in Pricing Strategy Selection for New Vaccine Packaging Study of PT Bpharmaceutical

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Abstract. This study is conducted to develop a structured approach for selecting the most viable pricing strategy for Vaccine T packaging transformation from ampoules to prefilled syringes (PFS), which is a tetanus-diphtheria vaccine produced by PT BPharmaceutical. The packaging innovation is intended to improve dosage accuracy, reduce contamination risks, and align with market trends. To overcome this challenge, this study uses the Analytical Hierarchy Process (AHP) to evaluate and assess the selection of the most suitable pricing strategy based on key financial considerations. The research employs both qualitative and quantitative methods and is grounded in both primary and secondary data. Internal interviews, FGD, and a questionnaire were conducted with the company's stakeholders to identify relevant pricing criteria, SWOT analysis, and possible strategy alternatives. External and internal analyses were also performed through PESTEL, Porter's Five Forces, STP, demand forecasting, and SWOT-TOWS matrix to identify the decision-making environment. Based on these inputs, three strategic alternatives were formulated: Skimming, Penetration, and Strategic. These alternatives were then assessed using AHP based on three main criteria: price changes, average cost per unit, and cost recovery. Price changes have two sub-criteria: average yearly price increase and average gross profit margin, while cost recovery has three sub-criteria: NPV, IRR, and PBP. The result from the AHP analysis indicated that the Strategic pricing strategy is the most viable option, with the highest score of 0.029. An implementation roadmap has also been developed to ensure the strategic execution of this pricing decision.

Keywords: Analytical Hierarchy Process, Prefilled Syringes, Pricing Strategy, Decision Making, Vaccine Industry.

INTRODUCTION

The vaccine industry plays a very important role in the Indonesian public health system (Kim & Park, 2018). This is driven by the government's need to combat various diseases, both infectious and non-infectious, and to support the national immunization program (Sari et al., 2020). With a population of approximately 270 million people, Indonesia has a high risk of spreading infectious diseases such as measles, polio, hepatitis, diphtheria, and other diseases (Sutanto & Suherman, 2021). One of the most effective ways to control infectious diseases is to carry out structured and sustainable immunization (Wang et al., 2018). The government's commitment to vaccine programs is essential to achieving herd immunity and preventing disease outbreaks (Prawira et al., 2022). Moreover, the development of effective vaccines and improved delivery systems has become a priority for public health authorities to reduce the burden of preventable diseases (Rizal & Ali, 2019).

The National Immunization Program in Indonesia officially began in 1977 as part of the government's efforts to improve public health (Purnama et al., 2018). At the beginning of its implementation, the BCG vaccine, oral polio vaccine, measles vaccine, and DPT vaccine were the main focus of immunization (Wibowo et al., 2020). Over time, the scope and types of vaccines provided continued to expand following community needs and recommendations from international health organizations such as WHO and UNICEF (Sari et al., 2021). Finally, the hepatitis B vaccine, PCV vaccine, diphtheria, rubella, and HPV became part of the list of vaccines provided in the mandatory immunization schedule (Wahyudi et al., 2022). This expansion reflects ongoing efforts to combat infectious diseases and improve public health outcomes (Putra & Rahmawati, 2019). The inclusion of these vaccines highlights Indonesia's commitment to maintaining a comprehensive immunization program (Dewi & Santoso, 2020).

Diphtheria is one of the infectious diseases that can be prevented by immunization (Meyer et al., 2020). Its transmission can cause an outbreak, so its control must be carried out immediately when a case is found (Nugroho et al., 2021). In Indonesia, efforts to control diphtheria outbreaks are carried out through several programs such as epidemiological surveillance, national immunization programs, clinicians, laboratories, and other health programs (Kementerian Kesehatan Indonesia, 2023). National health authorities have been increasingly vigilant in monitoring and responding to outbreaks (Fauzi et al., 2020). The use of vaccines as part of a comprehensive public health strategy has been proven effective in reducing the incidence of diphtheria (Wibowo & Santoso, 2022). The following is a map of the distribution of diphtheria cases in Indonesia in 2023, illustrating the ongoing efforts to manage and eliminate the disease (Setiawan et al., 2023).

According to the 2023 Indonesian Health Profile data published by the Ministry of Health in 2024, there was a significant increase compared to 2022, from 541 cases to 949 cases in 2023. Deaths due to diphtheria also increased in 2023. Out of 38 provinces in Indonesia with diphtheria cases, 16 provinces reported deaths. West Java Province is in first place with the most deaths due to diphtheria, namely 21 cases, followed by North Sumatra Province with 10 cases and East Java with 9 cases. The following is data on deaths due to diphtheria in Indonesia in 2023.

Tetanus is a disease or poisoning condition caused by chemicals and drugs (toxicosis), which typically causes muscle stiffness. Tetanus occurs when the bacteria *Clostridium tetani*

enter the body through a wound and multiply inside. Tetanus is included among the diseases that can be prevented using vaccines and has been introduced as a global goal by *WHO* since 1974. According to *WHO* and *UNICEF*, before 2000, of all countries in the world, 135 countries had succeeded in achieving tetanus elimination, and until 2012, 34 countries had not been able to achieve this elimination.

The Td (Tetanus Diphtheria) vaccine is a follow-up vaccine action from the administration of the DT (Diphtheria Tetanus) vaccine to build immunity against tetanus and diphtheria (Asmuliati et al., 2024). Immunity against diphtheria and tetanus can be obtained through natural infection or post-immunization. The Td vaccine is given after the child is 7 years old, or it is usually given to children aged 11 years. This vaccine can be repeated every ten years or once a decade to maintain immunity against the virus and bacteria because the level of immunity after immunization decreases with age (Adi et al., 2013).

The government, through the Ministry of Health and leading vaccine manufacturing institutions in Indonesia, such as PT Bpharmaceutical, has been actively innovating in maximizing services, production capacity, and distribution of vaccines to meet domestic needs. This effort is also aimed at reducing dependence on imports so that domestic products have increased competitive advantages. One of the innovations being carried out by PT BPharmaceutical is to change the packaging of vaccine T from ampoules to Prefilled Syringes.

A Prefilled Syringe (PFS) is a disposable syringe that has been previously filled with a liquid medication or vaccine according to the dosage (Sacha et al., 2015). The compact size, convenient usage, highly precise dosage, and sterility make the demand for prefilled syringes continue to increase these days. In line with this, the market share of drugs will increase due to reduced drug waste and increased product life. PT BPharmaceutical recognizes this trend as an opportunity to achieve a competitive advantage in the healthcare market and improve the quality of its product.

However, PT BPharmaceutical faces challenges in selecting an optimal price increase due to the change in packaging because they do not have a precise method of decision-making that can show the weight comparison of every alternative that can occur. The absence of this system can lead the company to take a less optimal option and potentially threaten the success of this project. This study is designed to identify the optimal price increases for the new packaging of vaccine T.

RESEARCH METHOD

A research design is needed to guide the study and ensure a structured and comprehensive research process. The image below presents the research design for the pricing strategy selection process of new vaccine packaging.

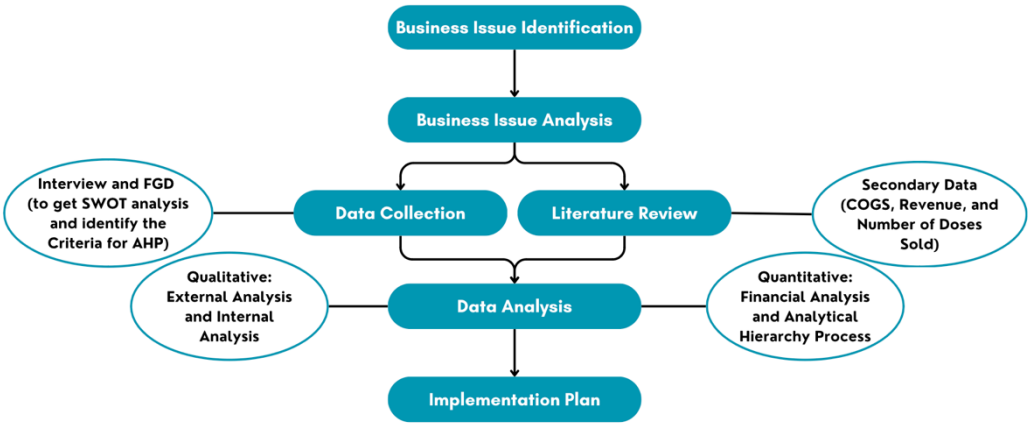

Figure 1. Research design for the pricing strategy selection process of new vaccine packaging

This study employs a mixed-method research approach that integrates both quantitative and qualitative methods to ensure a comprehensive understanding of the pricing strategy formulation. The research begins with the identification and analysis of the core business issue. Following this, data collection is conducted in parallel with a literature review to ground the analysis in both empirical insight and theoretical frameworks.

Primary data is gathered through Focus Group Discussions (*FGD*) to identify the most important pricing criteria, and in-depth interviews are conducted to explore expert perspectives on strategic considerations. On the other hand, secondary data, such as Cost of Goods Sold (*COGS*), historical revenue, and the historical number of doses sold, are collected to provide quantitative grounding. The data analysis phase employs a dual approach: qualitative findings from interviews are synthesized thematically, while quantitative analysis is conducted using the Analytical Hierarchy Process (*AHP*) to prioritize pricing criteria and systematically evaluate alternative strategies.

The insights from both data streams are then integrated to develop a practical and data-driven implementation plan for PT BPharmaceutical's pricing strategy. This structured approach ensures that the proposed pricing decision is not only aligned with internal expert judgment but also supported by solid quantitative analysis, offering a strategic recommendation tailored to the company's operational and market context.

To address the research objectives and support the *AHP* framework, data were collected through a combination of qualitative and quantitative methods tailored to each design stage. Interviews were conducted to explore and clarify the core business issues from the perspective of key internal stakeholders. To identify the relevant decision criteria for the *AHP* model, *FGD* were held with representatives from the Business Development Division. In addition, to determine the alternative pricing strategies to be formulated, *TOWS* analysis and financial data analysis were employed, using secondary data.

To support the process of data collection, interviews and *FGD* are done with the stakeholders to extract data on the business issue and SWOT analysis to identify the criteria for *AHP* analysis. Here is the list of questions to assist the process of interviews and *FGD*.

RESULTS AND DISCUSSION

SWOT Analysis

After conducting a comprehensive internal and external analysis, it is important to consolidate these findings into a strategic diagnostic framework. The SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis provides an integrated perspective that captures PT BPharmaceutical's internal capabilities and limitations alongside external conditions that may help to build the success of the Vaccine T packaging transformation project. Combined with stakeholders' expert opinions in the interview, this SWOT analysis serves as a foundation for identifying strategic options that will be critical guidance for PT BPharmaceutical's pricing strategy alternatives. Below is the table of SWOT analysis for the packaging transformation project.

Table 1. PT BPharmaceutical's Vaccine T Packaging Transformation Project SWOT Analysis

Strengths	Opportunities
1. PT BPharmaceutical holds a high-volume position in LMIC that indicating a strong market penetration and procurement reliability.	**1.** Rising private market demand with 11.34% growth from 2026 – 2042, driven by healthcare privatization and rising middle-class consumption.
2. PT BPharmacrutical has a long-standing presence in the vaccine industry with WHO prequalified products, enabling access to global tenders and donor-funded immunization programs.	**2.** Product differentiation through PFS that offers safety, convenience, and reduced wastage will increase value in both private and donor-funded market.

Table 2. PT BPharmaceutical's Vaccine T Packaging Transformation Project SWOT Analysis

Weaknesses	Threats
1. Most of PT BPharmaceutical's current sales come from price-sensitive institutional buyers.	**1.** Vaccine industry has an intense industry rivalry with global competitors offers similar superior products.
2. PT BPharmaceutical has limited presence in premium market with only 0.013% sales means they lack exposure to markets that offer higher margin.	**2.** Critical PFS components are imported from specific and limited suppliers, this situation may increase the risk of supply chain dependence.
	3. Ampoule packaging vaccine remains dominant in cost-sensitive markets.

TOWS Analysis for Formulating Alternative Pricing Strategies

The SWOT analysis, which identified the internal strengths and weaknesses of PT BPharmaceutical as well as external opportunities and threats in the vaccine industry, must be translated into actionable strategies. The TOWS matrix expands upon the SWOT framework by systematically combining each internal and external factor to generate four types of strategic responses, namely, leveraging strengths to seize opportunities (S-O), using strengths to mitigate threats (S-T), addressing weaknesses through opportunities (W-O), and minimizing weaknesses while defending against threats (W-T). This analysis enables PT BPharmaceutical to develop practical and adaptive strategies for the Vaccine T new pricing strategy alternative.

The following TOWS matrix outlines the recommended strategic directions based on the interaction between internal and external factors identified in the previous analysis.

Table 3. PT BPharmaceutical's Vaccine T Packaging Transformation Project TOWS Analysis

	Opportunities	**Threats**
	(O1) Rising private market demand with 11.34% growth from 2026 – 2042, driven by healthcare privatization and rising middle-class consumption. **(O2)** Product differentiation through PFS that offers safety, convenience, and reduced wastage will increase value in both private and donor-funded market.	**(T1)** Vaccine industry has an intense industry rivalry with global competitors offers similar superior products. **(T2)** Critical PFS components are imported from specific and limited suppliers, this situation may increase the risk of supply chain dependence. **(T3)** Ampoule packaging vaccine remains dominant in cost-sensitive markets
Strengths **(S1)** PT BPharmaceutical holds a high-volume position in LMIC that indicating a strong market penetration and procurement reliability. **(S2)** PT BPharmaceutical has a long-standing presence in the vaccine industry with WHO prequalified products, enabling access to global tenders and donor-funded immunization programs.	**S-O** **(S1S2O1)** Leverage PT BPharmaceutical's strong LMIC presence on WHO certification to introduce PFS into growing private segments, using credibility to penetrate new premium-oriented channels. **(S1O2)** Use product differentiation to upsell PFS by emphasizing product advantages.	**S-T** **(S1T3)** Position PFS as a modern yet affordable upgrade to ampoules for cost-sensitive buyers by demonstrating downstream saving.
Weaknesses **(W1)** Most of PT BPharmaceutical's current sales come from price-sensitive institutional buyers. **(W2)** PT BPharmaceutical has limited presence in premium market with only 0.013% sales means they lack exposure to markets that offer higher margin.	**W-O** **(W2O1)** Use forecasted private market growth to pilot premium pricing models and gradually diversify from low-margin institutional buyers.	**W-T** **(W1T1)** Target niche programs or campaigns (product educational program) to ease entry of PFS in cost-sensitive market. **(W1T2)** Develop second-tier supply chain partnership for PFS components to reduce import dependency.

Based on the interview, 3 out of 5 strategies that formed from TOWS are selected as the suitable alternatives for the Vaccine T's new packaging pricing strategy.

1. Skimming: (W1T1) Target niche programs or campaigns (product educational program) to ease the entry of PFS in a cost-sensitive market.
2. Penetration: (S1S2O1) Leverage PT BPharmaceutical's strong LMIC presence on WHO certification to introduce PFS into growing private segments, using credibility

to penetrate new higher-price-oriented channels.

3. Strategic: (W2O1) Use forecasted private market growth to pilot premium pricing models and gradually diversify from low-margin institutional buyers.

AHP Analysis

Building Decision Hierarchy

Based on the internal and external analysis, also validated by the interview with the stakeholder, there are three important criteria that must be considered in selecting the new price for Vaccine T in PFS packaging:

Price Changes

To determine the price changes in the project, the first step is to determine the price increase assumptions for each alternative. The price assumption is calculated by increasing the product's Cost of Goods Sold with the agreed price increase from the price of Vaccine T in ampoule format. The following table is the key assumption to determine the price increase of Vaccine T for each alternative.

Table 4. PT BPharmaceutical's Vaccine T PFS Price Changes

Aspects	Skimming	Penetration	Strategic	Source
Cost of Goods Sold	66% average increase from previous COGS			Internal Calculation
Price Increase	5%	10%	16%	Internal Calculation

The average yearly price changes and average profit margin for each alternative are then calculated as shown in the following table.

Table 5. PT BPharmaceutical's Vaccine T PFS Price Changes

Alternatives	Skimming	Penetration	Strategic
Average yearly Price Changes	1.1%	2.4%	3.2%
Average Gross Profit Margin	57%	64%	69%

Average Cost per Unit

To determine the average cost per unit, the first step is to determine the assumptions that will be used in calculating the total cost that is represented by the operational cost of Vaccine T in PFS format production, as presented below.

Table 6. PT BPharmaceutical's Vaccine T PFS Costs Assumptions.

Costs	Assumption	Source
Operational Cost	25% of Revenue	Company Policy

The average cost per unit is calculated by dividing PT BPharmaceutical's total price by the total cost of Vaccine T in PFS format production over 16 years of forecasted demand, as shown in Table 7.

Table 7. PT BPharmaceutical's Vaccine T PFS Average Cost per Unit.

Alternatives	Skimming	Penetration	Strategic
Average Cost Per Unit	Rp 21,567	Rp 22,222	Rp 22,828

Cost Recovery

To determine the cost recovery in the project, the first step is to determine the assumptions that will be used in calculating the FCFF of Vaccine T in PFS format project as presented below.

Table 8. PT BPharmaceutical's Vaccine T PFS FCFF Assumptions.

Costs	Assumption	Source
Capital Expenditure	66% average increase from ampoule format Vaccine T	Interview
Depreciation	25% of Revenue	Company Policy
Cost of Goods Sold	66% average increase from ampoule format Vaccine T	Internal Calculation
Operating Expenses	25% of revenue	Company Policy
Corporate Tax	22% of operating profit	Company Policy
WACC	8,59%	Company Policy

The investment's Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period (PBP) for each alternative are then calculated as shown in Table 9.

Table 9. PT BPharmaceutical's Vaccine T PFS Cost Recovery Analysis

Alternatives	Skimming	Penetration	Strategic
NPV (million)	Rp 26,527	Rp 48,158	Rp 73,828
IRR	14.96%	18.56%	21.94%
PBP (years)	7.43	4,94	3.52

From those 3 criteria, the AHP hierarchy is then built to select the best pricing strategy. The hierarchy is divided into three levels, consisting of goals, criteria, and sub-criteria, as well as alternatives, to explain the relationship between each aspect in the decision-making process. The criteria are price changes (PC) that have two sub-criteria of average yearly price increase (YPI) and average gross profit margin (GPM), average cost per unit (ACU), and cost recovery (CR) that have three sub-criteria of NPV, IRR, and PBP. The alternatives consist of three strategies of pricing strategies, skimming, penetration, and strategic as shown in Figure 2.

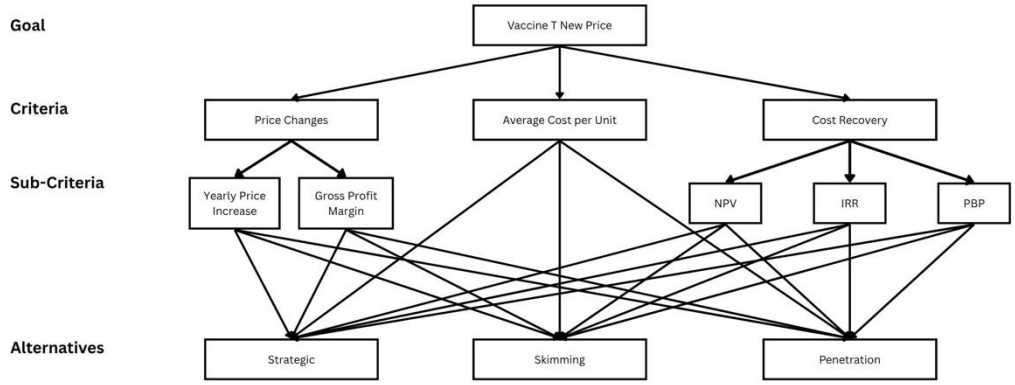

Figure 2. Pricing Strategy Selection Hierarchy Tree for Vaccine T Packaging Transformation

Pairwise Comparison

Criteria and Sub-Criteria Pairwise Comparison

To determine the importance ranking for each criterion and sub-criterion, a questionnaire was conducted with six stakeholders involved in this project and related experts in the company. The results of the questionnaire are then analyzed using the BPMSG website for AHP to determine the global weight. The analysis result shows the group consistency ratio of 8.4%, which is below the acceptable rate of 0.10, as shown in figure below.

Participant	Average Cost per Unit	Avg Yearly Price Increase	Avg Gross Profit Margin	NPV	IRR	PBP	CR_{max}
Group result	**14.4%**	**9.6%**	**34.1%**	**20.8%**	**14.8%**	**6.4%**	**8.4%**
Head of Business and Product Development	23.4%	1.3%	6.7%	51.6%	12.6%	4.3%	30.8%
Senior Finance Officer	9.2%	55.4%	18.5%	3.8%	11.1%	2.2%	30.8%
Head of Vaccine Product Department	6.7%	8.9%	62.5%	9.5%	10.6%	1.7%	19.1%
Head of Planning and Portfolio Department	9.7%	3.4%	16.8%	40.9%	9.5%	19.7%	14.1%
Project Owner	8.1%	9.1%	63.9%	8.8%	8.8%	1.3%	6.8%
Finance Supervisor	22.1%	5.3%	26.6%	14.7%	10.2%	21.2%	14.1%

Figure 3. Pairwise comparison of criteria and sub-criteria using BPMSG

A pairwise comparison matrix is then conducted for each main criterion as shown in Table 10.

Table 10. Main Criteria Pairwise Comparison

Pairwise Matrix				**Normalized**				
	PC	**ACU**	**CR**		**PC**	**ACU**	**CR**	**Eigen**
PC	1	2.297	1.383	**PC**	0.463	0.372	0.524	0.453
ACU	0.435	1	0.258	**ACU**	0.202	0.162	0.098	0.154
CR	0.723	2.872	1	**CR**	0.335	0.466	0.379	0.393
SUM	2.158	6.169	2.641	**SUM**	1	1	1	1
λmax = 3		CI = 0		CR = 0				

After the pairwise comparison for the main criteria is conducted, the next step is to conduct the pairwise comparison for each sub-criterion, as shown in the following tables.

Table 11. Price Changes Sub-Criteria Pairwise Comparison

Pairwise Matrix			Normalized			
	YPI	**GPM**		**YPI**	**GPM**	**Eigen**
YPI	1	0,281	**YPI**	0.219	0.219	0.219
GPM	3.562	1	**GPM**	0.781	0.781	0.781
SUM	4.562	1,281	**SUM**	1	1	1

Table 12. Cost Recovery Sub-Criteria Pairwise Comparison

Pairwise Matrix				Normalized				
	PC	**ACU**	**CR**		**PC**	**ACU**	**CR**	**Eigen**
PC	1	2.297	1.383	**PC**	0.463	0.372	0.524	0.453
ACU	0.435	1	0.258	**ACU**	0.202	0.162	0.098	0.154
CR	0.723	2.872	1	**CR**	0.335	0.466	0.379	0.393
SUM	2.158	6.169	2.641	**SUM**	1	1	1	1
λmax = 3		CI = 0		CR = 0				

Therefore, the global score for each criterion and sub-criterion can be determined from the local score (Eigen) by multiplying the main criterion's score with the sub-criterion's local score. The detail of the global rank for each criterion and sub-criterion is shown in Table 13.

Table 13. Global Score for Each Criterion and Sub-Criterion

Criterion	Criterion Score	Sub-Criterion	Local Score	Global Score	Rank
PC	0.453	YPI	0.219	0.099	5
PC	0.453	GPM	0.781	0.354	1
ACU	0.154			0.154	3
CR	0.393	NPV	0.527	0.207	2
CR	0.393	IRR	0.312	0.123	4
CR	0.393	PBP	0.161	0.063	6

Alternative Pairwise Comparison

To determine the ranking for the alternatives, each alternative is compared to each other by categorizing the criteria and sub-criteria. The inverse score is then calculated by dividing each alternative's result by the other one. Then, to determine the priority ranking and local weight, the scores are normalized. The first criterion to be assessed is price changes with both of its sub-criteria, average yearly price increase and average profit margin, as shown in Table 14 and Table 15. As the average yearly price increase is assumed to be the lower value, the better, 1 is divided by the value.

Table 14. Alternative Pairwise Comparison of Average Yearly Price Increase Sub-Criterion

Pairwise Matrix			
	Skimming	**Penetration**	**Strategic**
Skimming	1	2.182	2.909
Penetration	0.458	1	1.333
Strategic	0.344	0.750	1
SUM	1.802	3.932	5.242

Normalized				
	Skimming	**Penetration**	**Strategic**	**Eigen**
Skimming	0.555	0.555	0.555	0.555

Normalized				
Penetration	0.254	0.254	0.254	0.254
Strategic	0.191	0.191	0.191	0.191
SUM	1	1	1	1
λmax = 3		CI = 0		CR=0

Table 15. Alternative Pairwise Comparison of Average Gross Profit Margin Sub-Criterion

Pairwise Matrix				
	Skimming	**Penetration**	**Strategic**	
Skimming	1	0.891	0.826	
Penetration	1.123	1	0.928	
Strategic	1.211	1.078	1	
SUM	3.333	2.969	2.754	
Normalized				
	Skimming	**Penetration**	**Strategic**	**Eigen**
Skimming	0.300	0.300	0.300	0.300
Penetration	0.337	0.337	0.337	0.337
Strategic	0.363	0.363	0.363	0.363
SUM	1	1	1	1
λmax = 3		CI = 0		CR=0

The next criterion, average cost per unit, is assessed with the pairwise matrix and normalized as shown in Table 15. The value of the average cost per unit criterion is also assumed to be the lower value, the better. Therefore, 1 is divided by the value to determine the inverse score.

Business Solution

The result of the AHP analysis shows that the best pricing strategy alternative for Vaccine T's new packaging is the Strategic pricing strategy, with the highest score of 0.029, followed by the Penetration pricing strategy with a score of 0.021, and the Skimming pricing strategy with a score of 0.014. The Strategic pricing strategy involves the forecasted market growth to be used as a pilot project for premium pricing models. Therefore, PT BPharmaceutical can gradually diversify from the low-margin institutional buyers to the higher price market while still holding the existing market, which can solve the main business issue of this project.

Implementation Plan & Justification

An implementation plan that leverages the business solution is deployed based on the findings and PT BPharmaceutical's project timeline to ensure that this project is commercially viable, strategically aligned, and operationally executable by the targeted launch year in 2027. The project actions can be implemented in four key phases:

Market Research and Planning

The first phase is market research and planning in Q1–Q3 of 2025. This phase focuses on validating the strategic need for packaging and pricing adaptation. This study is one of the activities of the market research and planning phase, where the demand for private and export markets is assessed, the current segmentation, targeting, and positioning of the company are analyzed, and a pricing strategy scenario is decided using AHP decision model. Internal

stakeholder interviews are also conducted to define the data needed in this project. This phase also prioritizes the stakeholders' understanding of the product through discussion, meetings, or official socialization.

Registration

The third phase is registration, which is planned to be submitted in Q2 of 2026. The regulatory affairs team will prepare and submit the required document to BPOM, as this project is classified as "major variation", which requires 100 days of validation. This phase is very critical to ensure the new product can be officially listed and accepted in both domestic and international procurement systems.

Full-Scale Production

After the registration is underway, the production phase will be conducted from Q3-Q4 of 2026. PT BPharmaceutical will begin production scale-up of the new packaging format for Vaccine T, which is PFS. The monitoring of the production and quality of the product is prioritized in this phase. Internal enablement activities will also be conducted, including the education of the product to the sales and marketing team.

Launching

Finally, launching will take place in Q1 of 2027. This phase marks that the Vaccine T in PFS format is officially commercial rollout. Commercial performance will be closely tracked through the sales performance dashboard; the launch will also be followed by a structured review to assess product reception and financial outcomes.

CONCLUSION

Based on internal and external analysis and validation from stakeholder interviews, there are three important criteria in determining the new price of Vaccine T in *PFS* packaging, namely price changes, average cost per unit, and cost recovery. The price change criteria include sub-criteria of average annual price changes and average gross profit margin, while the cost recovery criteria include *NPV*, *IRR*, and *PBP*. The most feasible pricing strategy is Strategic Pricing with the highest priority score (0.029), which includes an average annual price increase of 3.2%, a gross profit margin of 69%, and an average cost per unit of IDR 22,828. This strategy also produces *NPV* ≈ IDR 73 billion in 16 years, an *IRR* of 21.94%, and a payback period of 3.52 years. Future research can expand the analysis by considering external factors such as market dynamics, government policies, or competitors' responses to price changes. In addition, further studies can evaluate the implementation of this pricing strategy in real terms, including its impact on customer satisfaction and market share, to ensure the accuracy and sustainability of the recommendations given.

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