
RESEARCH ARTICLE

Examining 4A's Marketing Framework for Marketing Strategy Proposal of Medical Device Product to Increase Market Share: A Case Study of PT MM Indonesia

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ABSTRACT

The medical device industry has seen consistent growth recently, offering a wide range of therapies for various diseases. MM, a global leader in this sector with a subsidiary in Indonesia named PT MM INDONESIA, has shown significant growth in radiofrequency ablation (RFA) for varicose vein treatment, increasing by 108% in FY21 and 48% in FY22. This research focuses on enhancing market share through marketing strategy and business model innovation in cardiovascular therapy. Internal analysis tools include VRIO, stakeholder analysis, and STP, while external analysis utilizes PESTEL, Porter's Five Forces, and Competitor/Benchmarking Analysis. Validation employs the 4A's Market Framework for marketing strategy formulation and the Business Model Canvas for proposing business model innovation. Qualitative methods are used, with primary data gathered through in-depth interviews involving internal and external stakeholders such as physicians, hospital management, business leaders, channel managers, and education specialists. Thematic analysis is conducted using NVivo 14 for qualitative data analysis, supplemented by secondary data from journals, articles, and books. Findings from the research indicate affordability and awareness as the key gaps based on the 4A's framework, driving marketing initiatives in those areas. Business model innovation suggests transitioning to a 4PL approach for its long-term strategic impact and financial performance benefits.

KEYWORDS

Marketing strategy, medical device, the 4A's marketing frameworks, business model innovation.

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1. Introduction

The medical device industry is experiencing global growth, particularly in emerging markets, with a projected compound annual growth rate (CAGR) of 4.5% from 2018 to 2023. This expansion is driven by an increasing elderly population afflicted with chronic diseases. According to the World Health Organization (WHO), approximately 41 million deaths annually are attributed to chronic diseases such as cardiovascular disease, diabetes, and cancer. Cardiovascular Disease (CVDs) alone accounts for 32% of global deaths, primarily due to strokes and heart attacks. Chronic Venous Insufficiency (CVI), a subset of peripheral arterial and venous diseases within the CVDs category, manifests when leg veins fail to efficiently return blood to the heart, causing blood to accumulate in the legs. Symptoms may include swelling, pain, and skin alterations. CVI typically results from venous valve damage, which can be caused by factors like obesity, aging, pregnancy, or a history of blood clots.

Based on the study done by Kohno M et al., the prevalence of CVI disease in Asia depicted in Figure 1

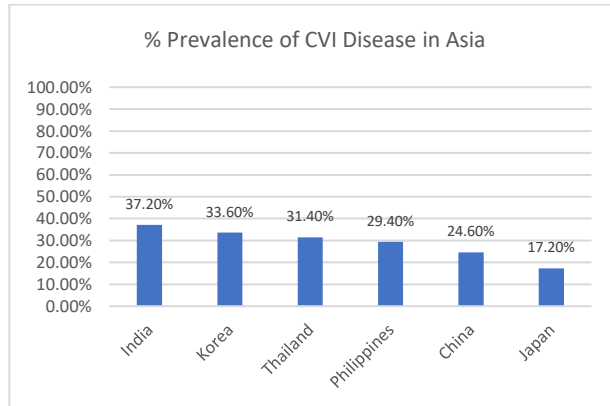


Figure 1: Prevalence of varicose vein disease in Asia (source: Kohno, 2019)

CVI poses a significant challenge globally, yet multiple treatment options are available. These include lifestyle adjustments, medications, compression stockings, open surgery (vein stripping), and minimally invasive procedures like endovenous laser treatment, endovenous radiofrequency ablation (RFA), and non-thermal (glue) endovenous treatment. MM offers endovenous radiofrequency ablation and glue treatments in Indonesia. MM, a multinational medical device firm with a subsidiary in Indonesia, maintains a diverse portfolio encompassing Cardiovascular, Neuroscience, and Medical Surgical business sectors. The focus of their research is on RFA within the Cardiovascular division. MM employs a comprehensive distributor model for its Endovenous business. The procurement strategies at MM and its distributors vary based on hospital type, distinguishing between government-owned and private hospitals. Government hospitals are mandated to use the E-Katalog platform for procurement, whereas private hospitals do not have this requirement.



Figure 2: Market Share on Thermal Ablation (source: internal data, 2023)

MM has experienced incremental market share growth in recent years, yet there remains significant room for improvement within Indonesia's expansive market. From FY22 to FY23, the market share increased by 2%, following a 5% growth in the previous year, as indicated in Figure 2. Internal data reveals that 90% of the thermal ablation market is covered by national reimbursement through BPJS, presenting a substantial opportunity for MM to expand its market presence in the coming years. One of the challenges in the medical device industry, particularly in the realm of RFA, is the limited number of trained physicians capable of using the product. The scarcity of training facilities in Indonesia directly impacts the rate at which new physicians can adopt RFA therapy. This treatment is primarily sought by vascular surgeons, vascular cardiologists, and cardiac surgeons, with only four training centers available in Indonesia—a number insufficient to meet the demand for trained practitioners. Given the competitive landscape, it is crucial for MM to enhance its market share despite recent improvements. Discussions within the organization reveal ongoing challenges with the current business and marketing strategies. Furthermore, the awareness of MM's products and services remains confined to specific customer groups.

Research questions in this paper include the following:

- a. What is the marketing strategy to increase the adoption of RFA treatment?
- b. What is the best business model innovation approach for RFA treatment?
- c. What is the implementation plan of the marketing strategy and business model innovation?

1.1 Research Limitations

The scope of this research will be limited to marketing strategy and business model innovation recommendations for RFA procedure to treat varicose vein. Considering broad key factors that affect the therapy penetration, the researcher will only focus on marketing strategy and business model innovation recommendations for the Indonesia market on RFA therapy. Lastly, the research limitations include the research period and the company identity.

2. Literature Review

2.1. Chronic Vein Insufficiency

Chronic Vein Insufficiency (CVI) is a pathophysiology condition where the peripheral vein is unable to return blood to the heart due to several impaired mechanisms or dysfunction such as valve mechanism, vein hypertension, etc. CVI may affect several veins systems, including deep vein, superficial vein, perforator vein, tributaries vein, or a combination of these mechanisms (Robert T. Eberhardt & Raffetto, MD, 2014).

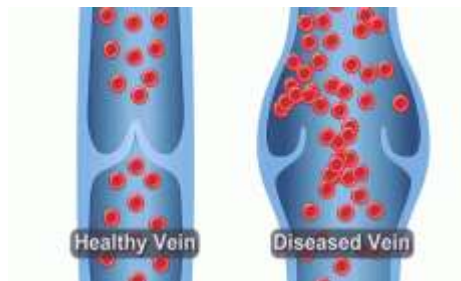


Figure 3: Healthy Vein vs Diseased Vein Illustration (source: MM.com)

The clinical manifestations of chronic venous insufficiency (CVI) are evaluated using the Clinical, Etiology, Anatomic, and Pathophysiology (CEAP) classification system. Radiofrequency (RF) Ablation is indicated for patients classified under CEAP 2 to CEAP 6, targeting those with superficial venous reflux or varicose veins. However, it is contraindicated in cases where there is thrombosis in the targeted vein segment (source: MM.com).

2.2. The 4A's Marketing Framework

The Th 4A's marketing mix framework comprises acceptability, affordability, accessibility, and awareness. This structured approach aims to guide marketing managers away from relying solely on intuition, aligning their strategies with predefined objectives and reducing uncertainties in decision-making processes (Sheth & Sisodia, 2012). Acceptability, the first component, assesses how well a firm's comprehensive product offering meets and exceeds customer expectations, considering both functional and psychological dimensions (Sheth & Sisodia, 2012). Affordability, the second component, evaluates the extent to which customers in the target market have the financial capability and willingness to pay for a product, examining economic and psychological affordability (Sheth & Sisodia, 2012). Accessibility, the third component, measures the ease with which customers can obtain and utilize a product, focusing on availability and convenience (Sheth & Sisodia, 2012). Finally, awareness, the fourth component, examines the level of customer knowledge about product attributes, their willingness to try the product, and potential repurchase considerations, encompassing brand awareness and product knowledge dimensions (Sheth & Sisodia, 2012).

2.3. Business Model Canvas

A business model explains how an organization generates value, delivers it to customers, and captures profits (Osterwalder, 2013). According to Chesbrough and Rosenbloom (2002), it is the method through which a company generates revenue and sustains itself, encompassing elements such as value proposition, target market, distribution channels, customer relationships, revenue streams, key resources, and cost structure. Effective business models help companies create value, gain competitive advantages, and ensure profitability over time by strategically aligning these components (Osterwalder, 2013). Osterwalder further elaborates on this in his book *Business Model Generation*, detailing nine building blocks: customer segments, value proposition, channels, customer relationships, revenue streams, key activities, key resources, key partnerships, and cost structure.

3. Methodology

Research design in academia aims to systematically outline key aspects of the research process (Sekaran, 2019). This study utilizes qualitative methodology, specifically thematic analysis, to formulate marketing strategies and business model innovations aimed at increasing market share. Primary data was gathered through in-depth interviews, supplemented by secondary data sourced from journals, literature, previous studies, and internal company data.

3.1. Data Collection: Interview

In this research, face-to-face, in-depth interviews were conducted using a semi-structured approach to foster rapport and encourage active participation among respondents (Sekaran, 2019).

Table 1: Interview Questions (Source: Author, 2023)

No	Question	Respondent
1	What and how are current existing business model for thermal therapy in the market?	1,2,3
2	How important having strong competencies level in vendors (manufacturer and/ or distributor) to you?	1,2,3,4,5,6,7,8,9,10,11
3	Considering recent situation, how importance stock availability to support you during procedure?	1,2,3,4,5,6,7,8,9
4	How competitive do you think RFA price compared to EVLA in your market	1,4,5,6,7,8,9,10,11
5	In terms of purchase methods (negotiation, after sales service), which are preferred (4PL, full fledged distributor), and why?	1,2
6	How important access to product complain and warranty claim?	1,2,3,4,5,6,7,8,9,10,11
7	What would be the gap and challenges on changing distributor model?	1,2
8	What is the process and the dynamic on team hiring and team development?	1
9	How PnL support the business, and what would be the rationale on commercial investment?	1,2,3
10	Importance of e-katalog listed in hospital purchase method?	4,5,6,7,8,9,10,11
11	What is the level of your current team competencies (on knowledge and skills) to do RFA procedure?	1,3,4,5,6,7,8,9
12	How is your segmentation on RFA procedure	1
13	How do you define your target market on RFA procedure	1
14	How do you positioned RFA in Indonesia market	1
15	How good is current public and/ or private reimbursement package on RFA procedure?	4,5,6,7,8,9
16	What is your preferred method to treat varicose vein, and what is your consideration?	4,5,6,7,8,9
17	What is the most suitable purchase method of capital machine and consumable for your center?	4,5,6,7,8,9,10,11
18	How does access to T&E matters to you in providing health service ?	4,5,6,7,8,9,10,11
19	How does shorter hospitalization period on thermal ablation impact total procedure cost?	4,5,6,7,8,9
20	Between two thermal options available in Indonesia, which one are you more familiar with?	4,5,6,7,8,9

No	Question	Respondent
	Which therapy did you learn the most during your fellowship/training period?	
21	RFA procedure is considered easy/ equal/ harder compared to EVLA?	4,5,6,7,8,9
22	RFA procedure is considered having less/ equal/ better result compared to EVLA	4,5,6,7,8,9
23	Benefit of options to conduct the varicose vein procedure in outpatient clinic?	4,5,6,7,8,9
24	Benefit of having reliable vendor representative & clinical support on giving confident to the therapy?	4,5,6,7,8,9,10,11
25	If you have to rank these aspects as your decision influence, how it will be?	4,5,6,7,8,9,10,11
26	How competitive RFA price compared to EVLA in your center?	4,5,6,7,8,9,10,11

There were 11 respondents, which include 5 internal stakeholders—1 business leader, 1 channel manager, and 1 training and education (TnE) specialist. External respondents comprised 6 physicians/hospital crew members and 2 hospital managers. Physician respondents were selected from both government and private hospitals to capture perspectives from different payer mechanisms.

3.2. Data Analysis Method

In qualitative research, various data analysis methods are commonly used, such as content analysis, thematic analysis, narrative analysis, template analysis, grounded theory, discourse analysis, visual analysis, and data display and analysis (Saunders, Thornhill, & Lewis, 2020). This study utilizes thematic data analysis with nVivo 14 as the qualitative data analysis software. Researchers code the data and develop themes based on the coded series formulated earlier.

4. Results and Discussion

4.1 Internal Analysis

The internal analysis data is gathered through an in-depth interview with PT MM Indonesia's internal management. Table 2 explains further the VRIO analysis to determine the competitive advantage level the company has in hand. VRIO (Valuable, Rare, easy to Imitate, Organized) is an internal analysis tool to assess a product or a firm's strength, including the brand resources, to determine whether this strength can be used as a competitive advantage to survive in the market. The creator of this tool was Barney, J.B., in 1991. Based on his explanation, a firm is required to have a strong and sustained competitive advantage to exist in the market for a long period of time. The result shows the company has six resources that categorized as sustainable competitive advantage. Thus, the company can further exploit these six resources.

Table 2: VRIO Analysis (Source: Author, 2023)

Resource	Valuable	Rare	Inimitable	Organization	Impact to Competitive Advantage
Adequate inventory	V	X	X	V	Competitive Parity
Customer direct access to product complaint and warranty claim	V	V	V	V	Sustainable Competitive Advantage
Patient mindset as the brand value	V	V	V	V	Sustainable Competitive Advantage
Highly competent team with long years of experience	V	V	V	V	Sustainable Competitive Advantage
Team hiring is a vital process as the initial step to build highly competent team	V	V	V	V	Sustainable Competitive Advantage
Training as a mandatory process to build highly competent team	V	V	V	V	Sustainable Competitive Advantage
Long term clinical study in RFA therapy	V	V	X	V	Temporary Competitive Advantage
RFA business prioritization is in mid to high priority level	V	V	X	X	Competitive Parity
RFA contribution to total business is good	V	X	X	V	Sustainable Competitive Advantage
User friendly and customer-oriented product	V	V	V	V	Sustainable Competitive Advantage
Competitive pricing in BPJS market	V	X	X	X	Competitive Parity
Product accessibility through e-catalog system	V	X	X	V	Competitive Parity

Continuing with the internal analysis, the second analytical tool utilized is Segmentation, Target Market, and Positioning (STP). STP is a method through which a company identifies its most lucrative market segment. The purpose of defining the target market is to allow the company to pinpoint its primary customer base and develop a customer-centric strategy based on its competitive advantages.



Figure 4: STP Analysis (Source: Author, 2023)

4.2 External Analysis



Figure 6: PESTEL Analysis (Source: Author, 2023)

The upcoming single tariff regulation by BPJS in January 2025 may reduce reimbursement rates, impacting MM's RFA business. Economic factors such as inflation and currency depreciation affect costs and pricing. Despite a decrease from peak pandemic levels, government healthcare spending remains high, influencing MM's vein closure business under BPJS. Sociocultural trends favoring health awareness among younger generations present opportunities for MM to collaborate with healthcare providers to raise awareness and promote early intervention for varicose vein disease. Challenges include limited local manufacturing, healthcare infrastructure constraints, and regulatory hurdles like healthcare waste management. Stringent regulations from Indonesia's Ministry of Health oversee the medical device industry due to their critical impact on public health.

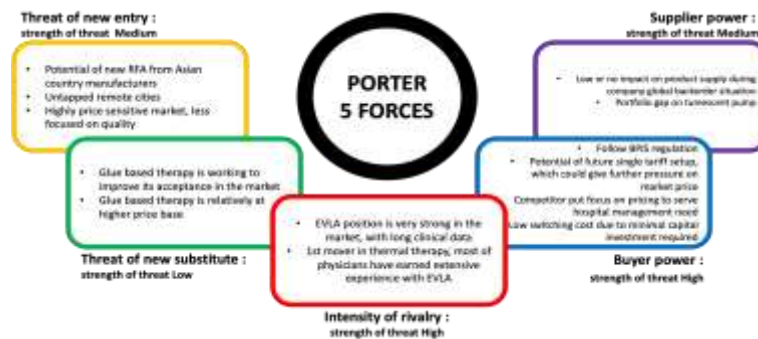


Figure 7: Porter's 5 Forces Scheme (Source: Author, 2023)

MM's RFA therapy faces moderate supplier power, influenced by occasional supply challenges like past backorders and a critical portfolio gap for tumescent infiltration pumps supplied by external manufacturers. Buyer power is high due to heavy reliance on the BPJS market, where government regulations and reimbursement limits significantly impact revenue. Hospitals experience low switching costs due to lease arrangements for capital equipment and separate procurement of consumables, reducing commitment to specific brands. The threat of new entrants is substantial, as RFA therapy remains concentrated in major Indonesian cities, presenting an attractive opportunity for Asian manufacturers amid the country's price-sensitive market conditions.

Attributes	MM RFA	EVLA
• Acceptability	<ul style="list-style-type: none"> • Class 1A recommendation on CVI (ESC 2022). • 8 years in Indonesia market. • Product is easy to use. • Deliver good result. 	<ul style="list-style-type: none"> • Class 1A recommendation on CVI (ESC 2022). • Been 13 years in Indonesia market. • Product is easy to use. • Deliver better result.
• Affordability	<p>• IDR 11,100,000</p> <ul style="list-style-type: none"> • Covered by BPJS / national reimbursement 	<p>• IDR 7,400,000</p> <ul style="list-style-type: none"> • Covered by BPJS / national reimbursement
• Awareness	<ul style="list-style-type: none"> • Exist in teaching hospital • Clinical support by distributor team and Medtronic team • Product familiarity • Slow product innovation 	<ul style="list-style-type: none"> • Exist in teaching hospital • Clinical support by distributor team and Medtronic team • Product familiarity • Faster product innovation
• Accessibility	<ul style="list-style-type: none"> • Accessible through e-catalog system • Good customer access to product complaint and warranty claim • Therapy access only can be done in OT / Cathlab 	<ul style="list-style-type: none"> • Accessible through e-catalog system • Customer access to complaint and warranty is through distributor • Therapy access only can be done in OT / Cathlab

Figure 8: Competitor Analysis / Benchmarking (Source: Author, 2023)

Both MM's RFA and EVLA therapies are recommended as Class 1A treatments for chronic vein insufficiency (CVI) disease (ESC, 2022). EVLA, having entered the Indonesian market earlier than RFA by five years, enjoys higher physician acceptance due to its established familiarity and demonstrated superior treatment outcomes. Interviews indicate both therapies are user-friendly, with EVLA recognized for its broader application capabilities and better treatment outcomes attributed to its longer presence in the market. This influences healthcare provider decisions, reflected in pricing differences and the wider range of catheter sizes available for EVLA compared to the more limited options for MM's RFA equipment.

	Strengths	Weakness
Opportunities	<p>Strength / Opportunities</p> <ul style="list-style-type: none"> • Key cities: Campaign on cardiologist and vascular surgeon market (in which EVLA highly established) to grab market share through equipment (RFG console) placement and/or lending strategy. • Remote cities: Campaign on bundling package strategies (equipment + consumables) on new remote accounts. • External advantage: Set focus with distributor to focus on Cardiac Thoracic Surgeon based market. 	<p>Weakness / Opportunities</p> <ul style="list-style-type: none"> • Conduct regular training and certification to distributor commercial team. • Accelerate plan on business model change (RF channel model). • Strategic partnership with potential manufacturer of Tumescent Pump. • Work with 3rd party local service and repair vendor.
Threats	<p>Strength / Threats</p> <ul style="list-style-type: none"> • Build well strategy: develop strategic partnership with chain hospital (e.g. Siloam Group, Primaya Group, Mitra Keluarga Group, Hermina Group, Prisma Group). • New business model change: shift to 4PL channel. • Market to improve price competitiveness by going more direct, to cut a middle layer on distribution, combined with credit sales loan (with existing coronary business within Medtronic cardiovascular organization). • Working with Medtronic Market Access team to external APWCHD code of conduct to Association of Indonesian Hospital Board of Director. 	<p>Weakness / Threats</p> <ul style="list-style-type: none"> • Accelerate plan on business model change (RF channel model). • Conduct training to credit sales team (especially to coronary team) to push market penetration in cardiologist. • Start preparation to launch new RFA catheter, to provide differentiation to potential new RFA competition.

Figure 9: TOWS Matrix (Source: Author, 2023)

In the W/O strategy, MM aims to address internal weaknesses such as limited clinical knowledge among distributors, constraints in the current fully-fledged distributor model, product portfolio gaps, and challenges in after-sales service by implementing regular product knowledge training for distributors, transitioning to a 4PL business model, collaborating with other firms to fill portfolio gaps, and partnering with third-party vendors for service and maintenance due to talent readiness issues for local teams. In contrast, the S/T strategy focuses on leveraging strengths like a diverse product portfolio and adapting to industry threats by establishing strategic partnerships with chain hospitals, transitioning to a 4PL model to streamline operations, and advocating updated government regulations to hospital boards to ensure continued reimbursement support for RFA therapy under BPJS. The S/W strategy involves accelerating the shift to a 4PL business model to enhance customer engagement, intensifying sales team training to expand market presence in underdeveloped segments, and promptly launching new products to counter competitive pressures in the market.

4.3 The 4A's Marketing Strategy



Figure 10: The 4A's Framework (Source: Author, 2023)

The 4A's framework identifies and prioritizes market needs and guides marketing strategy formulation based on primary data gathered from interviews. The framework, depicted in Figure 4.12, assigns weighted scores to each quadrant—affordability and awareness emerge as the most critical gaps, scoring 43/60 and 35/60, respectively. Affordability is pivotal in CVI therapy decisions, influenced by public reimbursement coverage (BPJS), with EVLA generally perceived as more cost-effective than RFA, according to 81.3% of respondents. Awareness, the second largest gap, pertains to customer, hospital team, and vendor clinical knowledge, indicating potential for improvement through enhanced training initiatives. The framework also assesses therapy acceptability, where RFA and EVLA show comparable acceptance based on clinical guidelines and therapy accessibility facilitated by the government's e-katalog system, ensuring widespread product availability despite geographical challenges. Figure 4.13 further illustrates these gaps, emphasizing MM's strategic focus on affordability and awareness to address market demands effectively, particularly among cardiologists, vascular surgeons, and hospital management, prioritizing cost and product knowledge in therapy selection.

4.4 Business Model Innovation

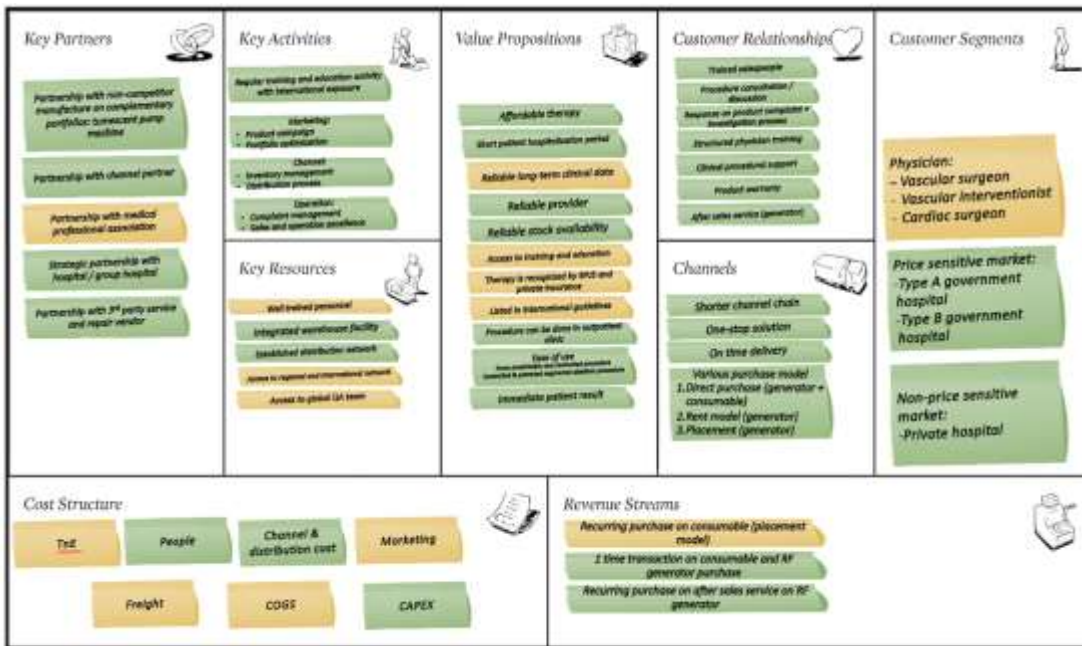


Figure 11: Business Model Canvas (Source: Author, 2023)

The proposed solution for the business model integrates a 4PL channel partner with an internal dedicated commercial and service team. Under this proposal, MM will entrust its products to the 4PL partner, who will then either directly sell or consign them to end customers. Adopting a consignment model with the 4PL partner means that MM will recognize revenue only upon the sale of the product to the end customer by the 4PL partner.

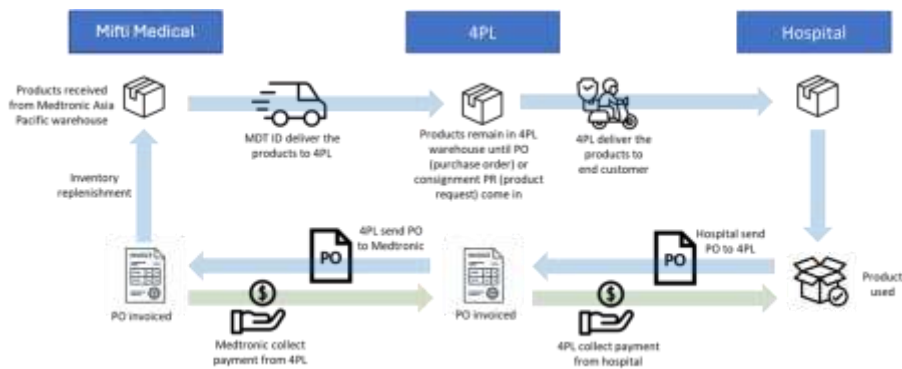


Figure 12: Business Model with 4PL and Consignment (Source: Author, 2023)

The decision to partner with a 4PL logistics provider instead of other models stems from 4PL's comprehensive supply management services, including warehousing, inventory management, transportation, invoicing, and payment collection, which are crucial for effectively servicing the targeted market compared to other logistics options. Additionally, 4PL logistics offer broader geographical coverage than traditional distributors. The solution aims to achieve operational efficiency, flexibility, risk mitigation, enhanced visibility, expanded market reach, and scalable business operations. By leveraging 4PL's optimized supply chain capabilities, MM anticipates improved delivery efficiency and reduced costs compared to traditional distributors, which is particularly advantageous in price-sensitive markets like Indonesia's BPJS segment. The partnership also allows for the division of supply and demand responsibilities between the 4PL partner and internal commercial teams, facilitating agile organizational and marketing strategies. Effective inventory management by 4PL helps optimize stock levels, minimize risks of obsolescence, and ensure supply continuity, supported by robust systems for visibility across main and branch warehouses, consignment inventories, and product expiration tracking. This strategic alliance with a dedicated 4PL provider enables MM to effectively serve Indonesia's diverse geography,

including remote regions and government hospitals, via e-katalog channels without heavy investment in supply chain management, thus enabling scalable service expansion while focusing on internal core competencies.

MM opts for an internal commercial team instead of relying on a full-fledged distributor to maintain better control over profit and loss, ensuring therapy affordability in the market and enhancing team quality management. MM's responsibilities encompass demand creation through sales processes and marketing, regular demand forecasting to optimize supply and minimize expiration risks, and covering costs related to product expiries. Additionally, MM provides technical support for procedures and manages service and repair activities exclusively for RF generators, both under warranty and through revenue-generating service contracts. They also handle product complaints regarding manufacturing quality and damage during handling or storage. The size of the commercial team will be determined based on future marketing strategies.

The marketing strategy for MM focuses on two key aspects derived from the 4A's framework analysis: affordability and awareness. In the short to mid-term, emphasis is placed on affordability strategies encompassing pricing, promotion, people, and place elements, with a specific focus on pricing strategy tailored for both BPJS and Non-BPJS markets. This involves maintaining competitive pricing slightly above key competitors like EVLA in the e-katalog system, adjusted to reflect product quality and service standards. Furthermore, the average selling price (ASP) is anticipated to increase significantly due to efficiencies gained from transitioning to a 4PL logistics model, incorporating the prior distributor margin into MM's profitability. In contrast, the mid to long-term strategy shifts towards enhancing awareness through strategic partnerships, structured training programs for internal and external teams, targeted hiring practices, and internal recognition methods. These initiatives aim to bolster product and team quality awareness, particularly focusing on advancing physician familiarity with RFA therapy in regions where therapy access is established, such as Java, Sumatra, and South Sulawesi.

5. Conclusion

The study concludes with the following insights. The marketing strategy to increase adoption of Radiofrequency ablation treatment focuses on awareness and affordability. Pricing strategy aims to compete effectively in the market and align with industry standards. Strategic partnerships with society, teaching hospitals, and group hospitals are intended to secure future opportunities and foster long-term relationships. Partnering with society will also facilitate the establishment of a local CVI consensus, enhancing market visibility and guiding short, medium, and long-term strategies. Increasing customer awareness involves structured training and education activities, differentiated into basic and advanced training, and participation in regional and international events organized by MM.

The recommended business model innovation for RFA treatment proposes transitioning from a full-fledged distributor model to a 4PL channel partner. This shift will grant MM greater control over end-customer strategies, including pricing, promotions, marketing activities, and training. The 4PL model ensures nationwide coverage by focusing on warehousing, invoicing, and logistics, enhancing competitiveness in the market and driving product adoption.

The implementation plan begins with the proposal of the new business model, followed by the selection of a 4PL channel partner, distributor transition, and team training. Marketing strategy implementation, including customer training and promotion, is slated to commence in Month 6 after the initial stages. Activities will continue into the medium to long-term, with periodic reviews on a quarterly and annual basis.

The primary limitation of this study is the availability of data, as it relies on company-specific information. The scarcity of medical device industry data in Indonesia constrains the study. Future research should seek more comprehensive and detailed data to better represent the Indonesian market, particularly for competitor analysis and marketing strategy development.

For future research directions, several key recommendations emerge to enhance both academic understanding and practical application. Firstly, forging partnerships with medical associations is crucial to acquiring local data on disease prevalence and trends. This collaboration will not only support Medtronic but also contribute significantly to the advancement of healthcare services in Indonesia. Additionally, implementing post-market studies to evaluate the effectiveness of proposed solutions will provide valuable insights into their real-world impact.

Further, comparing different business models, such as full-fledged distribution versus the 4PL model, through retrospective analysis will enable a thorough assessment of their outcomes and effectiveness. This comparison will facilitate a more informed evaluation of these models. Similarly, conducting benchmarking studies to assess the resources and value of RFA, EVLA, and new market entrants will help the company prepare strategically for new competitors.

Another important avenue for future research involves exploring new product development that aligns closely with customer needs, ensuring that innovation meets market demands effectively. Ongoing data collection on market and industry conditions remains essential, given the dynamic nature of the developing medical device sector.

In terms of academic research, future studies could integrate the 4A framework with other marketing frameworks, such as the 4P, to create a more comprehensive strategic approach. Additionally, applying the 4A framework to other industries within Indonesia's emerging market could offer valuable insights. Finally, expanding research in the consumable healthcare industry is needed, particularly in emerging markets where academic resources are currently limited, to address gaps in the existing literature.

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