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Strengthening Payment Gateway Business Models Using Root Cause Analysis and the Business Model

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Abstract

The payment gateway industry in Indonesia is rapidly growing, with the Finpay Payment Gateway being a key product. However, its market share is only 4%, indicating ongoing issues and shortcomings. This study aims to explore these issues using Root Cause Analysis (RCA) and Business Model Canvas (BMC) approaches. The research is a descriptive qualitative study, using observation and interviews for data collection.

Using a fishbone diagram approach, the study identifies the root cause of the problem using RCA. A Business Model Canvas (BMC) is then created using a Business Model Pivot (BMP) to determine the right business model for Finpay Payment Gateway. The analysis of the BMC reveals that Finpay Payment Gateway has a solid foundation in managing customer segments and offering a specific value proposition. However, several areas require further attention to increase competitiveness in the highly competitive Payment Gateway aggregator industry. The RCA analysis identifies structural and operational challenges, such as policies, regulatory compliance, lack of innovation, and complex processes, as the root causes of the problems. The study recommends adjustments to the existing BMC to address these issues.

Keywords: business model canvas, business model pivot, root cause analysis, fishbone diagram

1. Introduction

The digital era has brought significant changes in various aspects of life, including the financial sector. In Indonesia, internet usage, which reaches 77.02% of the total population, has increased online transactions and the adoption of electronic payment systems. This system not only provides convenience in financial transactions but also plays a strategic role in accelerating economic growth and increasing financial inclusion. In this context, the fintech industry has catalysed innovation in the financial sector, transforming traditional business models into more modern and digital ones.

Indonesia leads Southeast Asia in the digital economy with a market value of USD 82 billion by 2023, far surpassing countries such as Thailand (USD 36 billion) and Vietnam (USD 30 billion). However, amidst this vast potential, Finpay Payment Gateway products from PT Finnet Indonesia face various challenges. Based on 2023 data, Finpay's market share is only 4%, far below Competitor 1 (23%) and Competitor 2 (10%). Customer complaints regarding

high prices, incomplete product information, and limited payment methods, both local and international, exacerbate this.

This research uses a Root Cause Analysis (RCA) approach to address these issues to analyse the root causes of problems, such as high transaction costs and limited product features. Once the causes are identified, an evaluation is conducted through Business Model Canvas (BMC) to develop a more competitive and relevant business model. This approach is expected to not only overcome the existing obstacles but also enhance Finpay's value proposition in the increasingly competitive digital payment market. In line with today's rapidly evolving commercial environment, a corporation's competitive advantage is increasingly determined by its ability to outperform competitors in value creation (Noviaristanti et al., 2024). Building on this foundation, this study seeks to answer the following research questions: (1) What are the root causes behind Finpay Payment Gateway's higher pricing compared to competitors? (2) What are the root causes behind the incomplete product information of Finpay Payment Gateway? (3) What are the root causes behind the limited payment methods offered by Finpay Payment Gateway? (4) How can the business model for Finpay Payment Gateway be effectively evaluated and improved?

2. Literature Review

2.1 Strategic Management

Strategic management is a series of actions and decisions that enable an organisation to achieve its goals by taking advantage of opportunities and facing future challenges (David & David, 2017; Wheelen & Hunger, 2012). The main objective of strategic management is to create new and different opportunities and address environmental changes that can affect management implementation (Sedarmayanti, 2018). According to Taufiqurokhman (2016), strategic management has characteristics such as long-term, dynamic, integrated with operational management, driven by top-level management, future-oriented, and supported by all economic resources.

The strategic management process consists of four main elements, namely environmental observation, strategy formulation, strategy implementation, and strategy evaluation (Wheelen & Hunger, 2012). Environmental observation includes the evaluation of internal (strengths and weaknesses) and external (opportunities and threats) factors. Strategy formulation involves developing a long-term plan to achieve the organisation's mission. Strategy implementation is done through programs, budgets, and organisational culture and systems changes. Meanwhile, strategy evaluation ensures the organisation's achievements are aligned with the original goals and helps identify weaknesses for future improvement.

2.2 Payment Gateway

Payment Gateway is a software-based payment service that functions as an intermediary between consumers, sellers, and financial institutions in processing online transactions securely and in real-time through the Internet network (Alfian & Lena, 2020; Hasibuan et al., 2023; Prakoso et al., 2022). Payment Gateway authorises and authorises payments using various methods, such as e-wallets, bank transfers, or debit cards, and provides encrypted and secure proof of transactions (Hasibuan et al., 2023; Prajanto & Pratiwi, 2019). Service providers such as Midtrans offer convenience by providing multiple payment methods and eliminating the need for manual verification for sellers, making transactions easier for buyers and sellers

(Prakoso et al., 2022). Some popular payment gateway services in the community include OVO, Dana, Gopay, and Shopeepay (Kustina & Aji, 2023).

2.3 Root Cause Analysis

Root Cause Analysis (RCA) is an investigative method that aims to understand the underlying causes of a problem, non-conformance, or concern found to prevent the recurrence of similar problems in the future (BRC, 2012). The RCA process involves five main stages: defining the specific problem, investigating the root cause using analytical methods, proposing an action plan, implementing the solution with clear timelines and responsibilities, and monitoring to ensure the effectiveness of the actions taken (BRC, 2012). This stage ensures that the solution is in line with the root of the problem, not just addressing visible symptoms.

RCA methods commonly include the 5-Whys and Fishbone Diagram (Cause-and-Effect Diagram). The 5-Whys method aims to identify root causes by asking "why" questions repeatedly until the underlying cause is found. Meanwhile, the Fishbone Diagram helps visualise problems and causal factors in categories such as equipment, process, measurement, materials, environment, and people (BRC, 2012). These two methods make it easier to analyse and develop solutions based on the identified sources of problems.

2.4 Business Model Canvas

The Business Model Canvas (BMC) is a strategic tool used to describe a business model and gather insights into how an organisation creates, provides, and manages value (Ostelwalder & Pigneur, 2010). It includes aspects such as customer segmentation, which involves different groups of people or organisations that want to be influenced by the company. These segments can be mass market, niche market, segmented, diversified, and multi-sided platforms. Mass market models do not differentiate between different customer segments, while niche market models cater to specific consumers with specific needs and preferences. Segmented models divide customers into different segments based on their needs and preferences, while diversified models divide customers into two groups with different needs and preferences. Multi-sided platforms divide customers into two or more groups but are more pronounced. Value propositions are essential elements in creating a relationship between products and services that provide value to specific customers. In conclusion, the BMC is a valuable tool for businesses to develop and communicate their business models, helping them understand their target audience, identify their needs and preferences, and develop effective strategies to meet their needs.

3. Research Methodology

This research uses a qualitative research method with a descriptive approach to analyse the strengthening of the Finpay Payment Gateway product business model at PT Finnet Indonesia. Data collection methods were conducted through in-depth interviews with relevant internal and external parties, brainstorming sessions or Focus Group Discussions (FGDs) to obtain various perspectives related to the problem, and field observations to understand the actual conditions of product operations. This approach allows researchers to dig deep into the data and obtain comprehensive information about the root causes and potential for developing the right business model.

Fig. 1: Conceptual Framework

This research begins with conducting Root Cause Analysis (RCA) using the Fishbone Diagram method to identify the root causes of problems in the Finpay Payment Gateway product. This method was chosen because it can visualise problems and causal factors in the form of diagrams, making it easier to understand the source of the problem. Next, the business model will be evaluated using the Business Model Canvas (BMC) and Business Model Pivot (BMP) approaches. This approach will be validated and adjusted to the results of the RCA analysis to overcome the problems found so that no similar problems arise in the future.

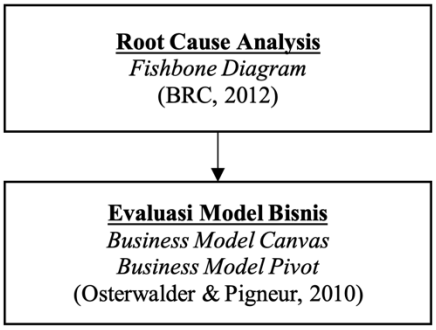


Figure 1: Conceptual Framework

4. Result and Discussion

A total of seven resource persons were interviewed in this study, consisting of four internal and three external resource persons. Internal interviewees provided in-depth information related to the main problems, such as high product prices, incomplete product information, and limited payment methods. Meanwhile, external interviewees were instrumental in confirming the causes of the problems and providing additional perspectives on the proposed solutions. Data was collected through separate interviews, followed by a brainstorming session to agree on a root cause analysis (RCA) and formulate strategic solutions to prevent the recurrence of similar problems in the future.

4.1 BMC Eksisting

The results of interviews with interviewees show that Finnet, including the Finpay Payment Gateway service, does not officially use the Business Model Canvas (BMC) as its strategic reference. However, some BMC elements, such as value proposition and customer segment, are still implemented. This reflects the company's understanding of the importance of value propositions in providing benefits to consumers and as a basis for mapping business strategies. This information was obtained through an interview with the Head of Corporate Planning and supported by literature highlighting the role of value propositions in business models (Yi, Wang, & Shu, 2020; Kristensen & Remmen, 2019).

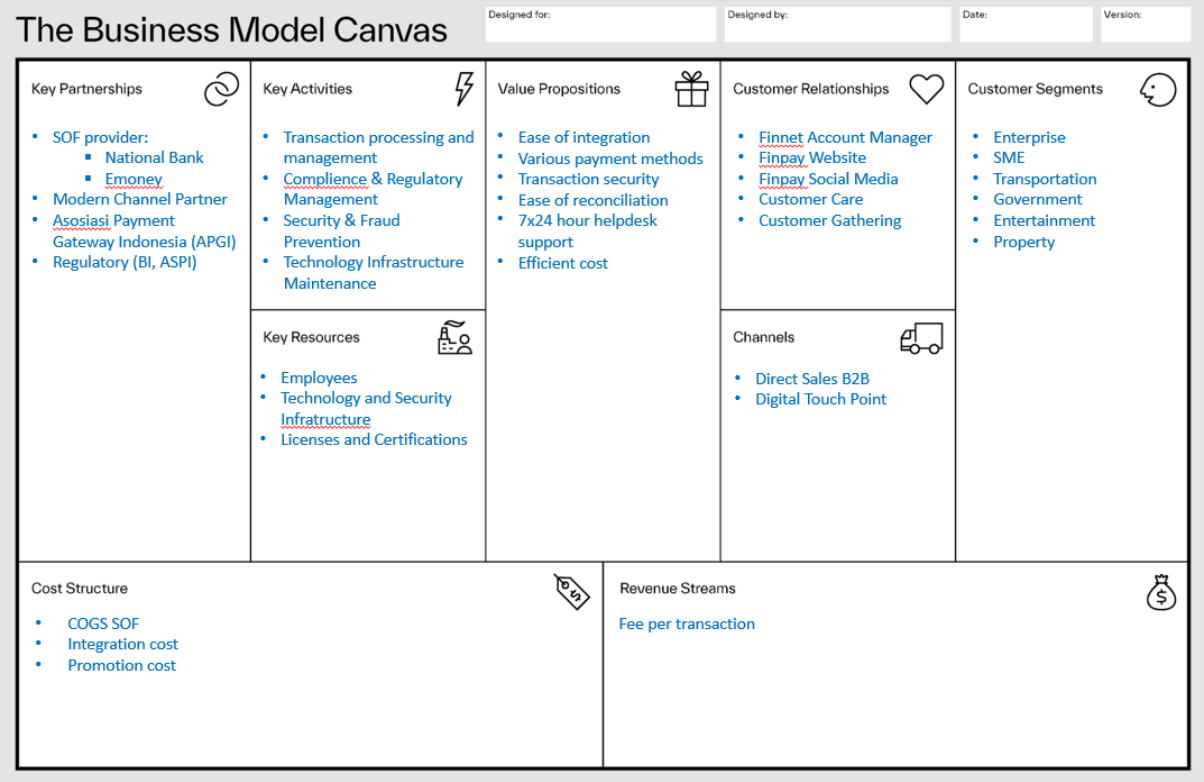


Figure 2: Existing BMC Finpay Payment Gateway

4.2 RCA

Root Cause Analysis (RCA) is a systematic approach that aims to identify the root cause of a problem to avoid treating symptoms alone. In the context of developing the Finpay Payment Gateway service by PT Finnet Indonesia, RCA is an important tool for understanding the factors that cause less than optimal market penetration compared to competitors. One of the RCA methods used is the Fishbone Diagram, which categorises root causes into categories such as Man, Machine, Method, and Material (4M) or Product, Price, Place, and Promotion (4P). This method helps to systematically and intuitively identify the main factors affecting product performance, providing a basis for formulating effective solutions.

The application of the Fishbone Diagram starts with identifying the main problem, which is the limited competitiveness of the Finpay Payment Gateway, followed by collecting related data. This data is analysed to determine the underlying causes using relevant categories. The results of this analysis provided a clear picture of factors such as feature limitations, uncompetitive pricing, and lack of complete product information. This process enabled Finnet to design solutions that focused on the root causes, thus not only improving product weaknesses but also supporting the strengthening of a more competitive and sustainable business model.

a. Identifying the problem

Three main problems with Finpay Payment Gateway services, based on the results of comparisons with several companies in the payment gateway industry, are limited payment methods, relatively high prices, and incomplete product information. The limitations of payment methods and features, such as SOF variations, affect the competitiveness of the service in a highly competitive market. This is due to the lack of development of product innovations that can meet the needs of customers across industries. In addition, the higher price of the service compared to competitors poses a significant challenge in attracting the cost-

sensitive SME and large enterprise market segments. On the other hand, currently available product information, especially non-technical documentation, is considered less user-friendly by potential partners, making it difficult to understand the advantages of Finpay services.

Interviews with potential partners also reinforce this finding. One interviewee stated, "Documentation related to pricing, limitations, and feature explanations should be made more accessible and user-friendly because currently, the complete documentation is only on the technical/API side." Nonetheless, regarding the price and availability of payment methods, as seen from the published rate, Finpay is considered quite competitive, especially in the activation of major banks and well-known e-wallets.

b. Category Identification

The main cause categories of Finpay Payment Gateway service problems are determined with a customised approach for each problem. For the problem of limited payment methods and prices that are more expensive than competitors, the 4P (People, Product, Process, Policy) category is used because it is more relevant to digital and service industries such as payment gateways. The 4P approach allows for a more flexible analysis of digital business dynamics, including aspects of product innovation, process efficiency, as well as the impact of regulations that often become obstacles in this industry. In addition, this category also provides space to evaluate product development strategies based on market trends and customer needs, which are the main focus in improving Finpay's competitiveness.

Unlike the previous two issues, the 4M category (Man, Machine, Method, Material) is used to analyse the root cause of incomplete product information. This approach is more suitable for identifying technical and operational elements relevant to product information management, such as the lack of user-friendly documentation and limitations in the delivery of non-technical information.

c. Finding Potential Causes (Level 1)

Root cause analysis of the Finpay Payment Gateway payment method limitations revealed internal and external factors as the main causes. Internal factors include limited cooperation with banks or SOF providers due to uncompetitive fee structures and the lack of business agreements. In addition, limited technical resources caused the new SOF integration project to be delayed. Some SOFs that have been technically completed have not yet been deployed due to cooperation agreement constraints or the absence of active pilot merchants. External factors involve Bank Indonesia regulations, such as SNAP implementation obligations, as well as technical constraints from SOF providers. Through brainstorming, these causes were identified and grouped into main categories to ensure targeted analysis and effective solutions.

The price of Finpay Payment Gateway services based on the interview results is considered expensive due to the application of the "no-loss" principle to each SOF, in contrast to competitors who apply cross-subsidies between payment methods. In addition, the high cost of goods sold (COGS) from banks affects the price offered to customers. Banks have specific pricing standards that Finpay must follow, thus affecting profit margins. Although Finpay's published rate is competitive and even lower for some SOFs, market perception still considers Finpay's price to be less competitive than competitors, as reflected in the Competitive Profile Matrix (CPM) results.

Incomplete Finpay Payment Gateway product information is caused by constraints in providing comprehensive documentation that partners can easily understand. Limited resources mean that

documentation often does not cover all important aspects of the product. In addition, product information is spread across various channels such as websites, social media, and internal documents, making it difficult for partners to access information in an integrated manner. The information update mechanism is also still done manually through direct communication with the PIC, which hampers efficiency in providing the latest information to partners.

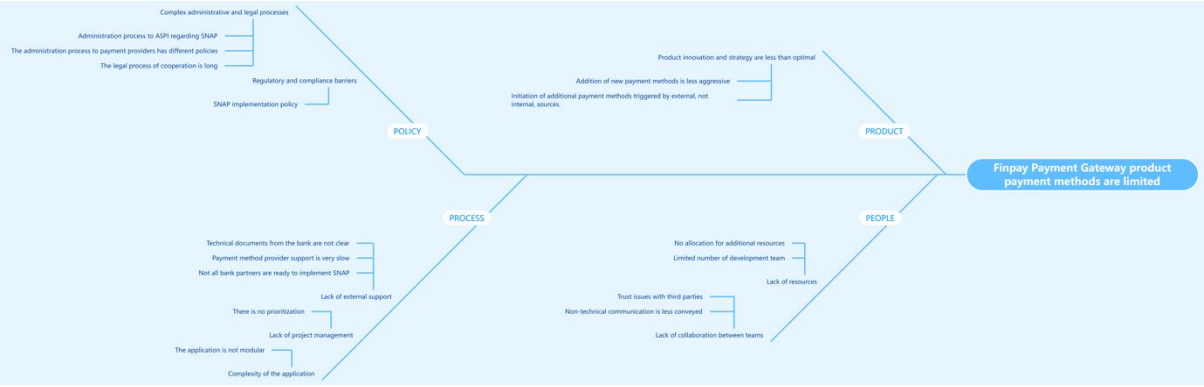
d. Assess and Agree on the Most Likely Cause (Level 2)

To strengthen PT Finnet Indonesia's Finpay Payment Gateway business model, this research identifies the root causes through Fishbone Diagram analysis up to level 2, complemented by in-depth brainstorming. This approach aimed to find the underlying causes of three main issues: limited payment methods, perceived high prices, and incomplete product information. This analysis provided a solid foundation for designing more effective and sustainable strategic solutions.

Payment method limitations are caused by feature innovations that are less reactive to external demand when it is important to make improvements and developments driven by external factors such as demand from customers (Gustomo et al., 2019), in this case, merchants. In addition, technical limitations in project management, as well as regulatory constraints such as SNAP implementation, require a long administrative process. In addition, the application's non-modular structure hindered the development of new features, and the lack of human resources exacerbated delays in project execution. External factors such as slow support from payment method provider partners also contributed significantly to these limitations.

The perception of high prices arises from rigid pricing schemes, lack of benchmarking against competitors, and high operational costs influenced by COGS from bank partners. Finpay products are also considered less flexible and have less added value compared to competitors. The lack of strategic collaboration for promotion and the absence of a promotion automation system worsen product competitiveness in the market.

Incomplete product information results from unstructured information management, lack of knowledge management integration, and lack of internal training for product understanding. Promotional content often lacks quality, while the information update mechanism is slow. Limited human resources and the absence of a dedicated team for information management further exacerbate this problem. A strategic approach is needed to address these challenges as a whole.



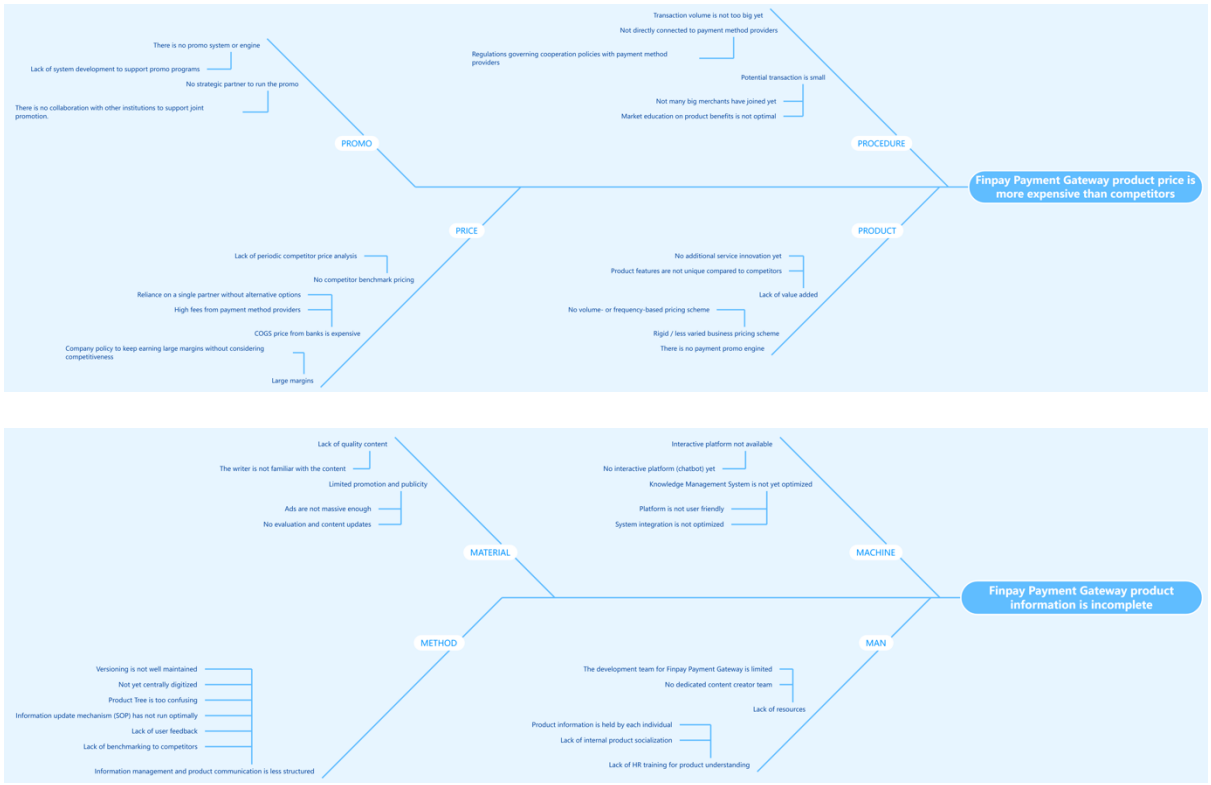


Fig. 3: RCA for each Finpay Payment Gateway Problem

e. Solution Discussion

After identifying the root causes through RCA analysis, the next step is to formulate relevant strategic solutions for each root cause. Solutions were designed based on a combination of relevant theory, industry best practices, and operational experience. This process involved benchmarking against competitors to identify effective approaches in the market, as well as gathering feedback from internal teams directly involved in the relevant activities. Thus, the resulting solution is not only theory-based but also tailored to the operational needs of the Finpay Payment Gateway service. The following is a list of ideas generated during the brainstorming process, which have been categorised based on identified issues.

1. The summary of ideas generated from the brainstorming process includes strengthening innovation based on market analysis, benchmarking with competitors and customer needs, increasing collaboration with partners, optimising human resources through training and recruitment,
2. Improving UI/UX through user testing, strengthening system integration with AI support, providing interactive platforms such as chatbots, simplifying the product tree structure, forming a dedicated content creator team, and implementing centralised digitisation of product information.
3. Proactively acquire large merchants, develop unique features and additional service innovations, strengthen pricing strategies based on competitor analysis, and build an automated promo system. In addition, it is recommended that strategic collaborations be established with other institutions to support joint promotion programs and improve product competitiveness in the market. The solution ideas generated from the brainstorming were mapped against the main problem to ensure their relevance and effectiveness. This process includes screening of similar ideas, in-depth discussions

with resource persons, and final confirmation with relevant parties to ensure the solutions can make a real impact.

4.3. BMC Pivot

The development of Finpay Payment Gateway's business model through a pivot on the Business Model Canvas (BMC) aims to overcome various challenges faced by this service, such as higher prices compared to competitors and limitations in payment methods. Several significant changes were made to various BMC blocks, such as the addition of two new customer segments, namely Community and Merchant Aggregator, which aim to expand market reach and build closer relationships with users. In addition, in the value proposition block, product bundling was added to utilise the various services owned by Finnet and provide a more complete solution for customers.

Another change occurred in the customer relationship block with the addition of Sponsorship and Educational Webinars and Training Sessions. Sponsorship is expected to expand market reach and increase consumer trust through association with other brands or organisations. Meanwhile, webinars and training sessions aim to improve customers' understanding of Finpay products, thereby increasing their loyalty and satisfaction. On the other hand, introducing tiered pricing schemes and fee-customized solutions in the revenue streams block is expected to provide more attractive pricing flexibility for customers and increase transaction volume. Successful businesses and organisations must also develop long-term mutually beneficial relationships with other actors in their business ecosystem (Tricahyono & Purnamasari, 2018) so the key partnerships block has been updated by adding supporting technology partners such as Big Data, AI, and Machine Learning, as well as regional bank partners to expand service coverage and increase financial inclusion. In the key resources block, data analytic systems and brand reputation are the main focus of improving data-based decision-making and strengthening the brand image. All these changes are expected to increase the competitiveness of Finpay Payment Gateway, expand the market, and create greater value for customers and stakeholders.

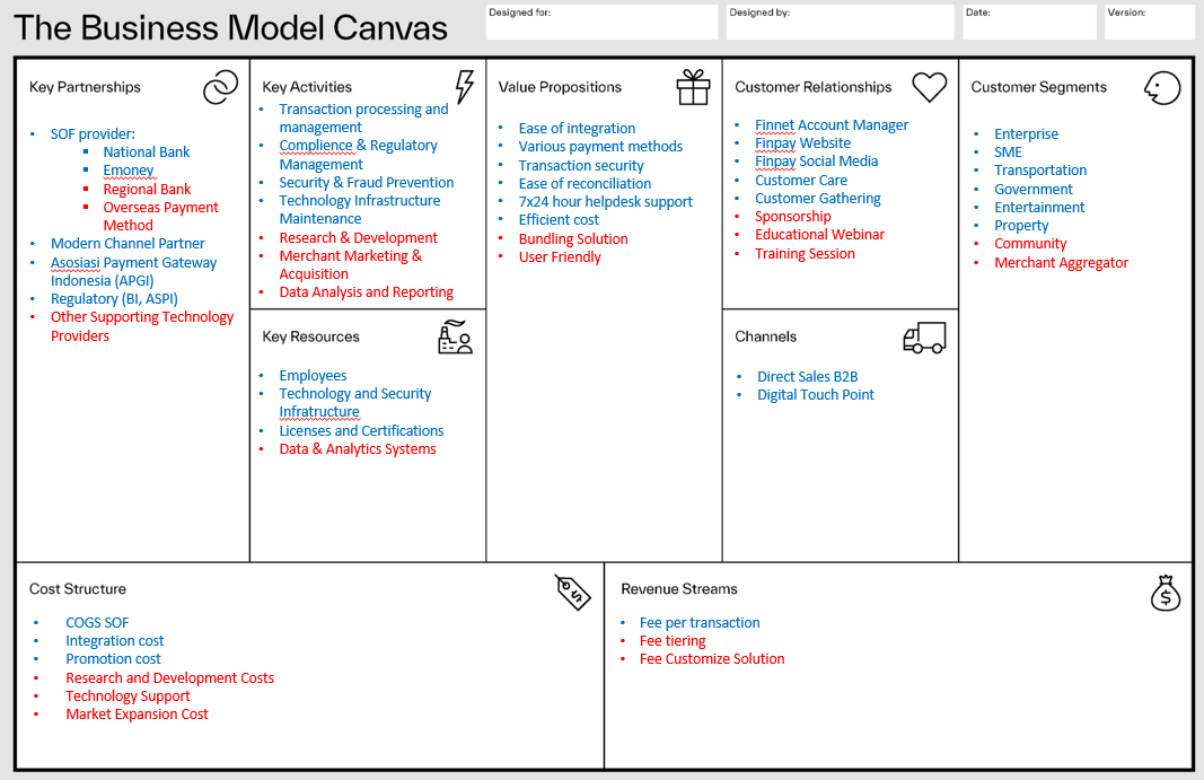


Figure 4: BMC Pivot

5. Conclusion

The analysis showed three main interrelated problems: uncompetitive product prices, incomplete product information, and limited payment methods. Through RCA analysis with fishbone diagrams, it was found that the root causes of the problems include internal policies, lack of innovation, and complex operational processes. To overcome this, this research proposes a business model adjustment through BMC Pivot with a focus on service diversification, strengthening strategic partnerships, improving operational efficiency, and integrating supporting technologies, such as various payment methods and data analytics features. This business model adjustment is expected to increase Finpay Payment Gateway's competitiveness in the increasingly competitive Payment Gateway aggregator market. Nevertheless, this research has several limitations, including limited competitor data in the Competitive Profile Matrix (CPM) analysis, potential bias in interviews with interviewees, and time constraints that may not fully capture the changing market dynamics. Therefore, periodic evaluation is needed to ensure the proposed strategy remains relevant and effective in improving Finpay Payment Gateway's position in the industry.

The research has limitations due to its use of publicly available data, excluding weighted scoring, potential subjective biases in data gathered through interviews, and limited sample size. Additionally, the implementation timeframe may not capture dynamic market changes, necessitating periodic evaluations to ensure the relevance and validity of proposed strategies. These limitations highlight the need for a more comprehensive and accurate analysis of Finpay Payment Gateway market competitors. As suggestions for future research, it is recommended to conduct a more in-depth Competitive Profile Matrix (CPM) analysis to obtain more accurate competitor data, expand the number of interviewees, especially from external partners, to

obtain more varied information, and apply the Plan-Do-Check-Action (PDCA) and Design Thinking methods in designing solutions to ensure a more structured and sustainable implementation.

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