

Redesigning the Business Model for the Distribution of Non-Subsidized Fertilizer Based on the Business Model Canvas in the Riau Province

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ABSTRACT

The non-subsidized fertilizer distribution sector in Riau Province faces increasing market demand along with significant challenges related to supply fulfillment, service quality, and business process efficiency. CV Bangun Dinata, as one of the official distributors of non-subsidized fertilizers, experiences limitations within its existing business model, including manual operational processes, unintegrated distribution channels, limited information transparency, and high order cancellation rates. This study aims to redesign the non-subsidized fertilizer distribution business model using the Business Model Canvas (BMC) framework to develop a more adaptive, competitive, and customer-oriented business strategy. This research employed a qualitative case study approach involving interviews, observations, questionnaires, and document analysis. Data were collected from company stakeholders and 30 fertilizer agents using purposive sampling techniques. The analysis process consisted of existing Business Model Canvas mapping, SWOT analysis, gap analysis, identification of Critical Success Factors (CSFs), and development of a proposed To-Be business model validated through service blueprint analysis and operational impact simulation. The results indicate that the existing business model requires improvement, particularly in value propositions, digital channel integration, customer relationship management, and operational activities. The proposed redesign transforms the company from a product-oriented model into a service-oriented business model by implementing digital ordering systems, real-time inventory information, delivery tracking, flexible payment mechanisms, and responsive customer service. The implementation simulation demonstrates potential improvements in fulfillment rates, operational efficiency, and customer satisfaction. In conclusion, the redesigned Business Model Canvas provides a strategic framework for improving distribution performance, strengthening competitiveness, and supporting sustainable business growth for CV Bangun Dinata.

INTRODUCTION

The plantation sector is one of the main pillars of Riau Province's economy, with oil palm as the dominant commodity supporting industrial activities and regional income. Based on the Riau BPDP report (2024), the total area of oil palm plantations in the province reached 3.049 million hectares, making Riau one of the regions with the highest fertilizer demand in Indonesia. The increasing intensification and extensification of oil palm plantations have contributed to the continuous growth of fertilizer demand. BPDP Sawit (2025) reported that

fertilizer demand in Riau has increased by 21–23% annually, indicating significant growth potential for the fertilizer market in the region.

In response to this growth, the government, through PT Pupuk Indonesia, developed a non-subsidized fertilizer distribution network and appointed 21 official distributor companies in Riau Province to ensure the availability and distribution of fertilizer to agents, kiosks, and plantation companies (PT Pupuk Indonesia, 2025). One of these official distributors is CV Bangun Dinata, a company initially established as a private enterprise engaged in fertilizer export and fertilizer expedition services since 2007. However, since 2024, the company has been appointed to distribute Nitrea fertilizer (Urea 46% N) and market other fertilizer products, such as NPK and KCl, to various regions in Riau (Iryani et al. 2023; Isyanto 2024; Senevirathne et al. 2025). With a distribution network consisting of 20 partner kiosks and two industrial partner companies, CV Bangun Dinata holds a strategic position within the non-subsidized fertilizer distribution chain in Riau Province.

Nevertheless, empirical conditions indicate a significant gap between market potential and the company's actual performance. Based on CV Bangun Dinata's internal data from February 2025, out of a total demand of 980.85 tons, only 101.25 tons were successfully fulfilled, while 879.60 tons, or nearly 90% of fertilizer demand, were canceled. This condition not only reflects unrealized market potential but also indicates inconsistencies in the company's value delivery mechanisms, particularly regarding price accuracy, stock information availability, and communication management with customers (Chen et al., 2019; Castillo et al., 2018).

These challenges demonstrate that the problems faced by CV Bangun Dinata are not solely operational but also indicate potential misalignment between the company's business model and market requirements (Sjödín et al., 2020). The company's inability to meet customer expectations regarding service speed, price transparency, and supply reliability is not only related to technical limitations or manual processes but may also be associated with a business model that has not fully adapted to the dynamic and complex characteristics of the non-subsidized fertilizer market in Riau Province (Ratrifa et al., 2023; Um & Kim, 2019).

Within the fertilizer industry context, the business model plays a strategic role because distributors function not only as product suppliers but also as providers of distribution services, pricing information, supply assurance, and delivery reliability. Osterwalder and Pigneur (2010) explained that a company's ability to compete is strongly influenced by how it designs and integrates the nine elements of its business model, including value proposition, customer segments, channels, customer relationships, revenue streams, and cost structure. When these elements are not aligned with market needs, companies may experience high order cancellation rates, declining customer loyalty, and unstable sales performance, as observed at CV Bangun Dinata.

Previous studies on fertilizer distribution in Indonesia have primarily focused on logistics, supply chain management, subsidized fertilizer availability, and regulatory aspects of distribution (Evand et al., 2020; Shaffiyah, 2023). However, limited research has examined the strategic dimension of designing business models for non-subsidized fertilizer distributors, despite current market conditions requiring companies to develop more structured and adaptive business strategies. Furthermore, studies applying the Business Model Canvas (BMC) approach to evaluate and redesign fertilizer distributor business models at the regional

level remain limited, particularly in Riau Province, which has distinct market characteristics compared with other regions.

Considering the substantial gap between market potential and the actual performance of CV Bangun Dinata, along with the limited comprehensive studies examining how the company creates and delivers value to customers, business model evaluation has become highly relevant. The Business Model Canvas (BMC) was selected as the primary framework because it enables the mapping of existing business conditions and supports the development of a more adaptive proposed business model (Basile 2021; Gallina et al. 2024; Kupczyk et al. 2024; Lewandowski 2016; Ojasalo et al. 2018). BMC provides a systematic framework for visualizing relationships among business elements and evaluating the alignment between a company's value proposition and local market needs (Giourka et al. 2019; Mazur et al. 2025; Sibalija et al. 2021; Vorraber et al. 2019).

Therefore, this study focused on designing and developing the fertilizer distribution business model of CV Bangun Dinata using the Business Model Canvas framework. The objective was to develop a business model that is more relevant, competitive, and capable of capturing opportunities in the growing non-subsidized fertilizer market in Riau Province. The analysis focused particularly on business model elements with significant gaps, especially the value proposition and its relationship with channels, customer relationships, and revenue streams in supporting business model effectiveness.

This research addressed the problem of how to redesign a non-subsidized fertilizer distribution business model based on the Business Model Canvas (BMC) framework in Riau Province. The objectives of this study were to analyze the existing business model using BMC, identify SWOT factors and Critical Success Factors (CSFs), redesign the BMC-based non-subsidized fertilizer distribution business model, and provide recommendations for developing a more effective and adaptive business model in response to market dynamics.

This research provides both theoretical and practical contributions. Theoretically, it contributes to the development of business management studies, particularly regarding the application of the Business Model Canvas in the fertilizer distribution sector. Practically, the findings provide input for the government and PT Pupuk Indonesia in developing distribution strategies, assist CV Bangun Dinata in designing a more efficient business model and improving customer satisfaction, and serve as a reference for other distributors in developing BMC-based business models. The research scope focused on CV Bangun Dinata in Riau Province during July 2025–April 2026, analyzing the nine elements of the Business Model Canvas, particularly value proposition, channels, and customer relationships. The study was limited to descriptive evaluation and did not include detailed investment analysis or technical software system development.

METHOD

This study employed a qualitative research approach with a case study design to explore and redesign the non-subsidized fertilizer distribution business model at CV Bangun Dinata, Riau Province. The case study approach was selected because the research aimed to gain an in-depth understanding of the company's existing business processes, value creation mechanisms, customer relationships, distribution channels, and operational challenges within its specific business context. The research population consisted of stakeholders involved in the non-subsidized fertilizer distribution ecosystem of CV Bangun Dinata, including company

management, employees, partner kiosks, fertilizer agents, industrial customers, and related business partners. The research sample was selected using purposive sampling, in which respondents were chosen based on their knowledge, experience, and direct involvement in fertilizer distribution activities. The primary respondents consisted of company representatives and 30 fertilizer agents/partners who were considered capable of providing relevant information regarding customer needs, distribution performance, and existing business model conditions.

The research instruments included semi-structured interview guidelines, observation sheets, questionnaire instruments, and document analysis frameworks based on the nine elements of the Business Model Canvas (BMC): customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structures. Data validity was ensured through source and method triangulation by comparing information obtained from interviews, direct observations, questionnaires, and secondary documents from CV Bangun Dinata, BPDP Riau, and PT Pupuk Indonesia. The reliability of qualitative findings was maintained through consistent data collection procedures, systematic documentation, and repeated verification of information from different stakeholders. Data collection was conducted through several stages, beginning with preliminary observations to identify business problems, followed by in-depth interviews with key informants, observations of distribution activities, questionnaire distribution to fertilizer agents, and collection of supporting company documents.

The research procedure consisted of four main analytical stages. First, the existing business model was mapped using the Business Model Canvas framework to identify the current condition (As-Is Business Model). Second, strategic analysis was conducted using SWOT analysis, gap analysis, and Critical Success Factor (CSF) identification to determine weaknesses, opportunities, and key improvement priorities. Third, the relationships among business model elements and proposed improvements were analyzed using structural modeling supported by SmartPLS software. Fourth, a redesigned business model (To-Be Business Model) was developed and validated through service blueprint analysis and operational and financial impact simulations. The collected data were analyzed descriptively and interpretatively to generate strategic recommendations for improving fertilizer distribution effectiveness, enhancing customer value creation, strengthening digital integration, and increasing the business competitiveness of CV Bangun Dinata.

RESULTS AND DISCUSSION

Overview of Research Objects

This chapter presents the results of research and discussion on the redesign of the non-subsidized fertilizer distribution business model at CV Bangun Dinata in Riau Province. The presentation of research results is carried out systematically starting from an overview of the research object, the results of the analysis of existing conditions, the analysis of business models based on the Business Model Canvas (BMC), to the preparation of business models of research proposals and recommendations.

In the first part, an overview of the research object was presented which aims to provide an understanding of the actual condition of CV Bangun Dinata as a distributor of non-subsidized fertilizers in Riau Province. The discussion in this section includes the company's profile, customer characteristics, and the mechanism of the fertilizer distribution process run by the company based on the results of observations, interviews, documentation, and other supporting data.

The presentation of an overview of the research object is important because the analysis of the business model cannot be separated from the operational conditions and business environment in which the company carries out distribution activities. Therefore, an understanding of the company's profile, existing distribution process, and market characteristics is the basis for identifying the gap between the company's actual condition and market needs, which is then used as a basis for designing a proposed business model.

CV Bangun Dinata is the official distributor of non-subsidized fertilizers in Riau Province since 2024, distributing Nitrea, NPK, and KCL fertilizers through 20 partner kiosks and 2 industrial partner companies with a warehouse capacity of 2,500 tons and 5 units of delivery fleets.

Existing Fertilizer Distribution Business Process (AS-IS Process)

Analysis of existing processes shows the dominance of manual systems with a low level of digitalization. The analysis of the existing BMC reveals weaknesses in the value proposition that has not been differentiated, channels are not integrated, customer relationships are reactive, and key activities depend on manual processes. SWOT analysis and gap analysis show significant gaps between existing conditions and industry standards in terms of information transparency, speed of service, and customer relationship management.

Table 1 Analysis of Existing Business Model Canvas (BMC)

BMC Elements	Existing Conditions
Customer Segments	Fertilizer kiosks, fertilizer agents, oil palm plantation (B2B) companies
Value Proposition	Provision of non-subsidized fertilizers (Urea, NPK, KCL), delivery services, stock and price information
Channels	WhatsApp, phone, field sales, direct communication
Customer Relationships	Transactional relationships, communication based on booking needs
Revenue Streams	Revenue from fertilizer sales per ton
Key Resources	Fleet of trucks, warehouses, admins, drivers, sales, supplier relations
Key Activities	Order acceptance, flagship system booking, payment, DO/SO issuance, loading, delivery
Key Partnerships	PT Pupuk Indonesia, fertilizer suppliers, transportation vendors, agents, kiosks
Cost Structure	Transportation costs, warehouse operations, employee salaries, operational administration

Table 2 Gap Analysis

Aspects	Existing Conditions	Ideal Conditions (Needs)	Gap	Implications
Channel	Booking via WhatsApp (manual)	Integrated digital ordering system	Unable to handle high volumes effectively	Slow process, not scalable
Information Systems	Not integrated	Integrated system (order, stock, shipping)	Data is asynchronous and not real-time	Low transparency, high potential for error
Transparency	Limited Stock & Shipping Information	Real-time & open information	The customer has no visibility	Customer trust declines

Customer Relationship	Unstructured	&	Systematic Managed CRM	&	Ineffective communication	Miscommunication & high cancellation
Operational Process	Manual separate	&	Integrated automated	&	Process inefficiencies	Long time & error-prone
BMC Linkage	Not integrated between elements		Synchronization between BMC elements		Value delivery is not optimal	Business performance is not optimal

Fertilizer Distribution Operational Performance Analysis

An analysis of operational performance reveals an average delivery time of 3–5 days with 40% delays. Major bottlenecks were identified in manual stock verification, DO issuance, and fleet coordination. Service efficiency is only 65% of the industry standard with an order cancellation rate of 90% by February 2025. Delays in delivery and uncertainty of stock information are the dominant factors causing cancellations.

Redesign Business Model Canvas to be by Connecting Design Thinking and Value Proposition

This study aims to design a redesign of CV Bangun Dinata's business model as a non-subsidized fertilizer distributor in Riau Province using a Business Model Canvas (BMC) approach oriented towards Value Proposition. The redesign begins with an analysis of the existing Business Model Canvas to identify the actual condition of the company, then the identification of Customer Pain and Customer Gain is carried out based on the results of observations, interviews, and customer needs. Furthermore, the Design Thinking approach is used through the stages of Empathize, Define, Ideate, Prototype, and Test to produce a new Value Proposition that is more in line with customer needs.

The results of the research produced six New Value Propositions, namely real-time stock certainty, digital orders, information dashboards, delivery tracking, flexible payments, and responsive customer service. The six Value Proposals were then analyzed for their influence on the six elements of the Business Model Canvas that were the focus of the research, namely Key Partners, Key Activities, Key Resources, Channels, Customer Relationship, and Customer Segments.

The results of the analysis show that the change in the Value Proposition is the main driver in the business model redesign process. The implementation of the new Value Proposition requires companies to add strategic partnerships with technology, payment services, and logistics providers; changing operational activities from manual to digital systems; improving resources through integrated information systems and human resource competencies; expanding digital communication channels; strengthen customer relationships through more responsive service; and expanding customer segments to regional distributors, plantation companies, farmer groups, and industrial sectors.

The integration of these changes results in a Canvas To-Be Business Model that is more adaptive to customer needs, increases information transparency, accelerates the ordering and distribution process, and supports increasing operational effectiveness and company competitiveness. Thus, this study proves that Value Proposition is the main driving force in the redesign of the Business Model Canvas, so that the value changes offered to customers are able to drive a comprehensive transformation in the company's business model.

Service Blueprint Usulan (To-Be)

The proposed service blueprint integrates customer actions, onstage contact, backstage, and support processes in one digitized service framework. The implementation impact simulation showed an increase in the fulfillment rate from 10% to 65%, a decrease in the cancel rate from 90% to 35%, a projected revenue of IDR 2,144,000,000 per month, a cost efficiency of IDR 32,000,000 per month, a net impact of IDR 2,167,000,000 per month, and a payback period of less than one month. The investment in the digital system is estimated at IDR 150,000,000 including ERP, CRM, dashboard monitoring, and HR training.

Growth Strategy Analysis with IFAS and EFAS

The analysis of growth strategies using IFAS and EFAS shows the company's position in the quadrant of growth-oriented strategy, supporting the value proposition enhancement, product development, and market penetration approaches. The integration of all elements of BMC's redesign resulted in the transformation of the model from product-based to service-based that is integrated and mutually supportive between elements.

Integration of BMC Business Model Redesign to be

The redesign of the value proposition proposed in this study not only changes one element of the business model, but also impacts other elements in the Business Model Canvas (BMC), especially channels, customer relationships, and revenue streams. This shows that value proposition as the core of the business model is closely related to the process of delivering value to customers (value delivery) and the company's ability to obtain economic value (value capture). Therefore, changes to the value proposition encourage adjustments to other elements so that the business model can run in an integrated manner.

Conceptually, the value proposition that was previously oriented towards the sale of fertilizer products has been transformed into a service-based. The company not only offers products, but also provides added value in the form of transparency in the distribution process, certainty of delivery according to Service Level Agreement (SLA), real-time stock monitoring, easy access to information, and more responsive customer communication. Thus, the value received by customers develops from just product quality to an integrated combination of products and services.

These changes have a direct impact on channel elements. In the As-Is condition, the company still uses manual communication channels, such as WhatsApp and conventional recording, so that information has not been integrated and the monitoring process is still limited. In the To-Be model, channels are developed through an integrated digital system and dashboard that allows real-time monitoring of orders, stock, and shipments. These changes increase the speed, accuracy, and transparency of information so that the distribution process becomes more effective and efficient.

Changes in the value proposition also affect the customer relationship element. In the previous business model, relationships with customers were still done manually and did not have a structured follow-up mechanism. This condition has the potential to reduce customer loyalty. Therefore, the To-Be model proposes the implementation of Customer Relationship Management (CRM) that supports customer follow-ups, payment reminders, loyalty programs, key customer monitoring, and more proactive data-driven communication. The implementation of CRM is expected to improve customer retention and strengthen the long-term relationship between the company and the customer.

Furthermore, changes in the value proposition also affect revenue streams. Under existing conditions, the company's revenue still depends on the product sales margin. In the To-Be model, revenue sources are developed to be more diverse through additional service opportunities, product bundling, and partnership programs. The diversification is expected to increase profitability while strengthening the company's business resilience.

Thus, the relationship between elements in the business model shows that changes in the value proposition produce a chain effect on other elements. Service transformation encourages channel digitization, strengthening customer relationships through CRM, and developing more diverse revenue streams. Thus, the proposed business model redesign is integrated and mutually supportive between elements of the Business Model Canvas, so that it is expected to be able to increase operational efficiency, customer loyalty, competitiveness, and profitability of CV Bangun Dinata.

CONCLUSION

The results of the study showed that CV Bangun Dinata's existing business model had not been operating optimally because it remained largely manual, lacked digital integration, and was not supported by an effective customer management system. This condition affected operational transparency, distribution efficiency, and order fulfillment performance, resulting in a high order cancellation rate of approximately 90%. Meanwhile, the company was only able to fulfill around 10% of the market demand for non-subsidized fertilizers in Riau Province. The results of SWOT analysis, gap analysis, and Critical Success Factor (CSF) identification confirmed that key success factors in fertilizer distribution included stock availability, delivery timeliness, information transparency, and customer relationship quality.

The implementation of the business model redesign through the Business Model Canvas and Service Blueprint resulted in a transformation from a product-oriented model into a service-oriented model emphasizing Service Level Agreements (SLAs), delivery order (DO) transparency, stock availability assurance, and process digitalization. The simulation results demonstrated significant improvements, with the fulfillment rate increasing from 10% to 65% and the cancellation rate decreasing from 90% to 35%. From a financial perspective, the proposed business model was considered feasible, as it generated increased revenue potential, improved cost efficiency, and achieved a relatively short payback period of less than one month. Overall, the service-oriented business model supported by operational digitalization was considered capable of improving distribution effectiveness, profitability, customer satisfaction, and the sustainable competitiveness of CV Bangun Dinata.

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