



# Analysis of laundry business model using the business model canvas (BMC) approach

Prapdopo<sup>1</sup>, Della. O. C. Kalangit<sup>2</sup>, Khairunnisa<sup>3</sup>, Amanda<sup>4</sup>, Ramzy Nanda Achmad<sup>5</sup>

Administrasi Bisnis, Politeknik Negeri Samarinda

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## ABSTRACT

This study examines the business model and financial feasibility of Laundry as a small-scale service business operating in urban areas. This study departs from the problem of how a laundry business can maintain operational sustainability while meeting increasing consumer demand. A mixed method was used by combining qualitative analysis through a business model framework and quantitative analysis through financial evaluation. The results show that all elements of the business model have been implemented effectively, although improvements are still needed in digital marketing and customer relationship management. The financial evaluation shows a positive net present value, an adequate rate of return, a short payback period, and a break-even point that reflects cost management efficiency. These findings indicate that this business is viable and has strong potential for future development. Strengthening digital-based promotion, diversifying revenue, and improving cost control were identified as strategies that could improve long-term sustainability.

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## Corresponding Author:

Khairunnisa,

Department of Business Administration,

Politeknik Negeri Samarinda,

Jl. Cipto Mangun Kusumo, Samarinda, 75131, Kalimantan Timur, Indonesia,

Email: [nisakhairunnisa363@gmail.com](mailto:nisakhairunnisa363@gmail.com)

## INTRODUCTION

The service sector has an important role in the Indonesian economy because of its labor-intensive nature and close to the needs of the community, where this sector contributes more than 55% to the national GDP Statistics, (2024). One of the fastest-growing subsectors is cleaning and household care services with an average growth of 8% per year, including laundry services that are increasingly needed in urban areas. The increasingly dynamic lifestyle of urban people encourages them to prioritize efficiency and practicality so that domestic work such as washing is transferred to professional service providers. According to Fajarwati et al., (2023), changes in lifestyle and the demands of the modern economy have made laundry services a practical solution for the community and have now changed from a secondary need to a routine need.

Khair et al., (2023) show that service quality and price suitability have a positive effect on laundry customer satisfaction and loyalty. Geng et al., (2025) also found that customer satisfaction encourages the intention to use the service again. From an environmental perspective, Lacalamita et al. (2023) reveal that the industrial laundry sector is a major user of water and chemicals and a

producer of hazardous liquid waste. Meanwhile, Susanti, (2023) shows that the implementation of a Java Desktop-based information system at Tasneem Laundry improves service efficiency and recording accuracy compared to manual systems.

Adi, (2023) emphasized that the use of technology and digitization in MSMEs can strengthen business models, improve operational efficiency, and accelerate services. Digitization helps reduce costs, minimize errors, and maintain consistent service quality, thereby increasing customer satisfaction. These findings are relevant for laundry businesses that need to integrate information systems in transactions, operations, and customer communication to improve internal performance and strengthen their value proposition and competitiveness in a competitive service market.

Various studies have discussed service quality, customer satisfaction, information system efficiency, and environmental impact, but studies that review the laundry business model comprehensively using the Business Model Canvas (BMC) are still limited. The BMC, according to Osterwalder et al., (2010), is important for understanding the interrelationships between the nine key elements of a business. Market aspects such as STP are also rarely discussed in depth, even though Zandrato & Zebua, (2023) show that proper segmentation, targeting, and positioning increase consumer interest in purchasing. Furthermore, Alie et al., (2022) emphasize that operational cost efficiency, capital management, and profitability significantly influence business performance and sustainability. Therefore, research that integrates business model, market, and financial analysis is needed to obtain a comprehensive picture of the sustainability of laundry businesses.

Previous empirical studies on the laundry business remain partial, focusing separately on service quality, customer satisfaction, digitalization, or environmental aspects without examining the business model as a whole. Market and financial analyses are also conducted independently, limiting insight into how value, operations, markets, and profitability are interconnected. These gaps highlight the need to integrate the Business Model Canvas with financial analysis to provide a more comprehensive understanding of business sustainability and feasibility.

There are still conceptual gaps in integrating service quality, digitalization, and business sustainability in laundry services. Previous research has generally addressed these three aspects separately, so they have not explained the simultaneous contribution of service quality and digitalization to operational and financial sustainability. In addition, there is no framework that maps the relationship between customer experience, technology efficiency, and sustainability strategy in the laundry business model. This gap emphasizes the need for an integrative approach to understand the interconnectedness between these elements more comprehensively.

This research was conducted on laundry MSMEs in Samarinda City, East Kalimantan, which was chosen because it is a center of economic activity and a growing service sector. The study aims to identify and analyze laundry business models, assess financial feasibility, and formulate sustainable and competitive development strategies.

## RESEARCH METHOD

This study uses mixed methods to obtain a holistic understanding of the business model and feasibility of Laundry Enofitri, in accordance with AL-Shammary et al., (2023), which emphasizes the integration of qualitative and quantitative data. Data were collected through observation, semi-structured interviews, and secondary documents. Qualitative data was collected through case studies and BMC mapping based on Salwin et al., (2022), while quantitative analysis included BEP, PP, NPV, and IRR calculations. Data integration was carried out at the interpretation stage to strengthen the validity of the findings as suggested by Symon et al., (2023). The object of the study was Enofitri Laundry, owned by Mrs. Yuli on Jalan Pasundan, Samarinda, which was established in 2019 and has regular customers.

Laundry Enofitri was chosen as a single case study because it represents the typical characteristics of urban laundry MSMEs, namely the scale of small businesses, regular customers, as well as challenges related to operational efficiency and digitalization. As a business that has been running steadily since 2019, Enofitri provides relevant empirical context to describe the dynamics of business models and financial feasibility that are commonly faced by laundry MSMEs in urban environments.

NPV is an investment appraisal method that compares the present value of cash inflows and outflows to assess the financial feasibility of a project. According to He et al., (2021), this method is effective in evaluating the economic feasibility of investments, such as in a study of building retrofits in various climate zones in China.

$$NPV = \sum_{t=1}^n \frac{CF_t}{(1+r)^t} - \text{Initial Investment}$$

Keterangan:

NPV= Net Present Value

$CF_t$ = net cash flow in the year

$r$ = discount rate

$t$ = Year-t (1, 2, 3, ..., n)

$I_0$ = Initial investment or capital spent at the beginning

IRR is the interest rate that makes the NPV equal to zero. This is in line with Guindon & Wright, (2020), who state that IRR is the discount rate at which the net present value of all project cash flows is zero.

$$0 = \sum_{t=1}^n \frac{CF_t}{(1+IRR)^t} - \text{Initial Investment}$$

Keterangan:

$CF_t$ = Net cash inflow during period t

$I_0$ = Initial investment

$r_1$ = First discount rate (yielding a positive NPV)

$r_2$ = Second discount rate (resulting in negative NPV)

$NPV_1$ = NPV on  $r_1$

$NPV_2$ = NPV on  $r_2$

BEP is an analysis that determines the minimum sales level at which revenue equals total costs. Fuksa, (2021) states that BEP consists of unit BEP, which is the number of products that must be sold to break even, and rupiah BEP, which indicates the minimum sales value to cover operating costs.

BEP units are the break-even point that indicates the number of product units that must be sold so that total revenue equals total costs (neither profit nor loss). In other words, at this point, all fixed and variable costs have been covered by sales proceeds.

$$BEP_{\text{unit}} = \frac{\text{Fixed Cost}}{\text{Selling Price per Unit} - \text{Variable Cost per Unit}}$$

Keterangan:

Fixed Costs: costs that do not change even if the amount of production changes (e.g., building rent, permanent employee salaries). Selling Price per Unit: the price received by the company for each unit sold. Variable Costs per Unit: costs that change according to the number of goods produced (e.g., raw materials, production costs per unit).

BEP (Rp) is the break-even point that indicates the minimum sales value at which total revenue equals total costs, so that the company is in a condition of neither profit nor loss. This calculation is based on rupiah value, not the number of units sold.

$$BEP_{Rp} = \frac{\text{Fixed Cost}}{1 - \frac{\text{Variable Cost per Unit}}{\text{Selling Price per Unit}}}$$

Explanation:

Fixed Costs: costs that do not change even if the amount of production changes (e.g., rent, fixed salaries). Variable Costs per Unit: costs that change according to the number of units produced (e.g., raw materials).

**Selling Price per Unit: the price of the product per unit sold.**

Payback Period (PP) is an investment analysis method to measure the time required to return the initial capital through cash inflows. According to Delapedra-Silva et al., (2022), PP shows the period when the accumulation of cash inflows equals the initial investment, thus becoming an indicator of investment efficiency and risk.

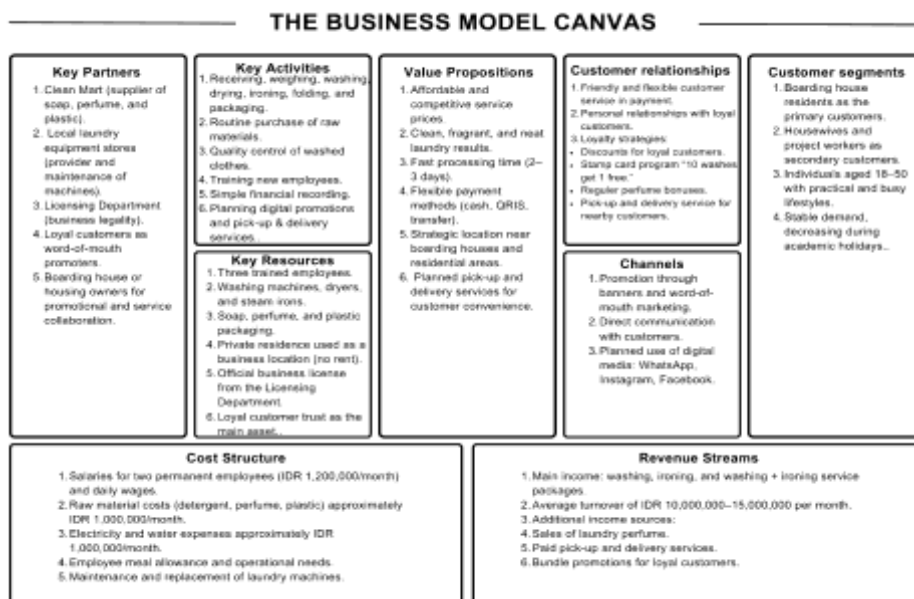
$$PP = \frac{\text{Initial Investment}}{\text{Annual Cash Inflow}}$$

The key assumptions underlying the calculation of NPV, IRR, BEP, and PP include stable and realistic cash flow projections, consistent cost and revenue estimates, discount rates that reflect business risks, and assumed operating conditions that do not change significantly. The fulfillment of these assumptions ensures that the results of financial analysis have high reliability in assessing business feasibility.

## RESULTS AND DISCUSSIONS

**Business Model Canvas Analysis**

The BMC is a strategic analysis tool for understanding how a business designs and operates its business model through nine key elements, ranging from customer segments to cost structures. Through BMC, Laundry can assess the effectiveness of its strategies, identify opportunities for development, and strengthen its competitive advantage in the ever-evolving laundry service industry.



**Gambar 1.** BMC Laundry Samarinda

The laundry targets customers aged 18–50, mainly boarding students, housewives, and project workers around the business area who need fast, practical, and affordable services. Its value proposition includes competitive prices, clean and fragrant results, 2–3 day processing time, flexible payments (cash, QRIS, transfer), and a strategic location, with future plans to add shuttle services. Current promotions rely on banners and word of mouth, but will expand to digital channels such as WhatsApp Business, Instagram, and Facebook. Customer relationships are supported by friendly service and payment flexibility, with planned loyalty programs like free wash offers and discounts. Revenue comes from washing, ironing, and package services (IDR 10–15 million/month), while future income will be increased through additional machines, branches, perfume sales, and shuttle services. Costs include salaries, utilities, raw materials, and machine maintenance (IDR 4–5 million/month), with no rental fees, and financial recording will be improved. Key resources are trained employees, equipment, suppliers, strategic location, legal permits, and customer trust. Main activities include washing, drying, ironing, packaging, quality control, employee training, procurement, and financial management, with digital promotion and shuttle operations planned. Partnerships involve suppliers, machine service providers, and licensing agencies, with future collaboration aimed at boarding house owners, housing areas, and delivery services to expand the market.

The operational sustainability of Laundry Enofitri is mainly influenced by value proposition, customer segments, and key activities, because all three determine the suitability of services to market needs and operational efficiency. The relationship between these elements can be further examined by looking at how strengthening service value and segment expansion impacts demand, as well as how optimizing core activities including digitalization supports sustainable competitiveness.

### **Business Model Canvas Improvement Strategy**

Based on the Business Model Canvas analysis, improvement strategies were developed by strengthening all nine elements, consistent with Hambali & Andarini, (2021) who emphasize BMC's role in refining key operational components. Market expansion targets office workers, apartment residents, and new students, aligning with Alves Gomes & Meisen, (2023) that precise segmentation enhances marketing effectiveness. Service value is enhanced through shuttle features, express services, and premium perfumes, in line with the integrated value proposition concept of Stonig et al., (2022). Promotional optimization uses Instagram, Facebook, and WhatsApp Business as effective digital channels Kotler, (2018). Customer relationships are strengthened through loyalty programs such as points, digital stamp cards, and WhatsApp groups, reflecting Guerola-Navarro et al., (2021) on CRM-driven loyalty. Revenue diversification includes shuttle services, perfume sales, and subscription packages as recommended by Olsen et al., (2024). Cost efficiency is improved through structured financial records, bulk purchasing, and scheduled maintenance Paavilainen, (2020). Key resources are strengthened with employee training, energy-efficient tools, and brand identity enhancement Koffel et al., (2019). Key activities are optimized via digital promotion, order tracking, and express and shuttle services, supporting Ellickson et al., (2023). Strategic partnerships with boarding house owners, housing managers, student communities, and suppliers are expanded to reduce risks and widen market access, as noted by Diesto et al., (2022).

### **STP Analysis**

The STP analysis shows that market segmentation in the laundry business is based on demographics (ages 18–35 for boarding students and young workers, housewives 25–45, and project workers 25–50 from lower–middle income groups), geography (nearby housing, boarding areas, and project sites), psychographics (practical lifestyle and preference for affordable, clean, and fragrant laundry results), and behavior (regular users mainly boarding students and seasonal

users like housewives and project workers). Boarding students become the main target due to consistent demand, while housewives and project workers are secondary targets. The market is price-sensitive, prioritizes quality, and tends to be loyal due to location proximity. The business positions itself as affordable, practical, and reliable, offering clean and fragrant results with friendly service. Its advantages include stable pricing, a strategic location near boarding and project areas, consistent service quality, and healthy competition with nearby laundries.\

### Finance

Financial analysis is conducted by calculating investment and operational costs and assessing feasibility through NPV, IRR, BEP, and PP indicators. This analysis is used to assess the business's ability to cover costs, return capital, and generate long-term profits, thereby determining the feasibility and potential for business development.

### Investment Costs

From the interviews, we obtained the investment costs used to provide facilities that support the laundry business. The largest investment cost was for the purchase of a dryer, which cost Rp 5,000,000, and the smallest investment cost was for clotheslines, which cost Rp 12,000. The investment costs of the Samarinda laundry MSME can be seen in Table 1.

**Table 1.** Fixed Costs of Laundry MSMEs in Samarinda

No	Description	Quantity	Unit	Price (Rp)	Usage Period	Cost		
						Day	Mont	Year
1	Washing Machine	1	unit	3,000,000	5 years	1,923	50,000	600,000
2	Dryer Machine	1	unit	5,000,000	5 years	3,205	83,333	1,000,000
3	Steam Boiler Iron	1	unit	3,200,000	3 years	3,419	88,889	1,066,667
4	Ironing Table & Chair	1	set	550,000	5 years	353	9,167	110,000
5	Digital Scale	1	unit	1,500,000	5 years	962	25,000	300,000
6	Hangers	3	dozen	75,000	3 years	80	2,083	25,000
7	Clothesline	2	meter	12,000	3 years	13	333	4,000
8	Rack	2	unit	300,000	5 years	192	5,000	60,000
9	Laundry Basket	5	unit	175,000	3 years	187	4,861	58,333
10	Ironing Table & Chair	2	unit	700,000	5 years	449	11,667	140,000
Total						10,782	280,333	3,364,000

### Total Costs

Total production costs are the sum of fixed and variable costs. Fixed costs for this laundry MSME consist of labor, electricity, water, and shop rental costs. Variable costs consist of detergent, plastic laundry bags, ironing gas, fabric softener, and fragrance.

**Table 2.** Total Costs of Laundry MSMEs in Samarinda

No	Description	Quantity	Unit	Price (Rp)	Usage Period	Cost		
						Day	Month	Year
1	Detergent	25	kg	400,000	1 month	15,385	400,000	4,800,000
2	Fragrance	6	liters	180,000	1 month	6,923	180,000	2,160,000
3	Softener	5	liters	90,000	1 month	3,462	90,000	1,080,000
4	Laundry Plastic	665	sheets	100,000	1 month	3,846	100,000	1,200,000
5	Gas for Ironing	11	tubes	385,000	1 month	14,808	385,000	4,620,000
6	Shop Rent	1	unit	1,800,000	1 month	69,231	1,800,000	21,600,000
7	Electricity	1	unit	1,000,000	1 month	38,462	1,000,000	12,000,000
8	Water	1	unit	800,000	1 month	30,769	800,000	9,600,000
9	Employee Salary (Monthly)	2	persons	2,400,000	1 month	92,308	2,400,000	28,800,000
10	Meal Allowance (2 Persons)	2	persons	390,000	1 month	15,000	390,000	4,680,000
Total						290,192	7,545,000	90,540,000

### Profit and Loss Calculation

#### Net Profit Value (NPV)

##### NPV Positif

Explanation:

CF = 11.340.000

I = 20.000.000

r = 8% = 0,08

n = 2 Tahun

$$\begin{aligned} \text{NPV} &= \frac{11,340,000}{(1+0,08)} + \frac{11340000}{(1+0,08)^2} - 20,000,000 \\ &= 10,500,000 + 9,722,222 - 20,000,000 \\ &= 222,222 \end{aligned}$$

The calculation produces a positive NPV of Rp222,222, indicating that the laundry business should be pursued. This positive value shows that the cash flow received exceeds the initial investment at a discount rate of 8%, meaning that the business is considered profitable and provides added value for investors.

##### NPV Negatif

Explanation:

CF = 11.340.000

I = 20.000.000

r = 9% = 0,9

n = 2 tahun

$$\begin{aligned} \text{NPV} &= \frac{11,340,000}{(1+0,09)} + \frac{11340000}{(1+0,09)^2} - 20,000,000 \\ &= 10,403,670 + 9,544,651 - 20,000,000 \\ &= (51,679) \end{aligned}$$

The calculation shows a negative NPV of Rp51,679, meaning that the laundry business is not feasible at an interest rate of 9%. A negative NPV indicates that cash inflows are unable to cover the initial investment and could potentially result in losses.

The NPV difference at the 8% and 9% discounts indicates that businesses are very sensitive to the risk of a slight increase in discount rates directly changing the project from feasible to unfeasible. This indicates the need to strengthen cash flow and efficiency to keep the business stable as capital costs increase.

### Internal Rate of Return (IRR)

$$\begin{aligned} \text{IRR} &= 8\% + \frac{222.222}{222.222 - (-51.679)} \times 1\% \\ &= 8\% + \frac{222.222}{273.901} \times 1\% \\ &= 8\% + 0.811 \times 1\% \\ &= 8.81\% \end{aligned}$$

The calculation results show an IRR of 8.81%, which is higher than the MARR of 8%, meaning that the laundry business is financially viable. This rate of return indicates that the investment is capable of generating profits above the cost of capital.

### Break Event Point (BEP)

#### BEP Unit

$$\text{BEP (kg)} = \frac{5.700.000}{20.000 - 2.962} = \frac{5.700.000}{17.038} = 334$$

Hasil perhitungan menunjukkan BEP unit sebesar 334, yang berarti Laundry Ibu Yuli harus melayani minimal 334 cucian agar mencapai titik impas, di mana pendapatan sama dengan biaya total dan keuntungan mulai diperoleh setelahnya.

#### BEP (Rp)

$$\begin{aligned} \text{BEP (Rp)} &= 20.000 \quad \times \quad 334 \\ &= 6.680.000 \end{aligned}$$

The calculation results show that the break-even point is IDR 6,680,000, meaning that the laundry business must earn a minimum income of IDR 6,680,000 to break even. If the income is below that amount, the business will suffer a loss, while if it exceeds that amount, the business will start to make a profit.

#### Payback Periode (PP)

$$\text{PP} = \frac{20.000.000}{11.340.000} = 1,7 \text{ Tahun}$$

The calculation results show a PP of 1.7 years, meaning that the investment capital of Rp20,000,000 can be recovered in 1 year and 7 months, making the laundry business feasible to run.

**Tabel 3.** Laundry Business Eligibility Criteria

No	Eligibility Criteria	Nilai
1	Net Present Value (NPV) (Positif)	222.222
2	Net Present Value (NPV) (Negatif)	-51.679
3	Internal Rate of Return (IRR) (%)	8.81%
4	Break Event Point (BEP Unit)	334
5	Break Event Point (BEP Rp)	6.680.000
6	Payback Periode (PP)	1,7 Tahun

The analysis results show that this project is considered financially feasible. The NPV value of Rp222,222 indicates economic benefits after taking into account the time value of money. The IRR of 8.81% indicates adequate investment efficiency. The BEP value of 334 units or Rp6,680,000 indicates the break-even point that can be achieved in terms of volume and sales value. In addition, the PP of 1.7 years reflects a relatively fast investment return period, so this project can be categorized as feasible to implement.

## CONCLUSION

The findings of this study indicate that Laundry has an effective and sustainable business model that is capable of meeting the needs of urban consumers in Samarinda. Based on BMC analysis, all nine elements of customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structures have been well implemented, although further optimization is still needed in the areas of digital marketing and customer relationship improvement. From a financial perspective, this business shows strong viability, as reflected in an IRR of 8.81% (higher than the MARR of 8%), a positive NPV of IDR 222,222, a payback period of 1.7 years, and a break-even point of 334 units or IDR 6,680,000, which indicates efficient cost and revenue management. Therefore, Laundry Enofitri 12 is not only financially viable but also has significant growth potential. Strengthening the business model through customer segment expansion, intensified digital-based promotions, revenue source diversification, and the implementation of more structured cost management will enhance competitiveness and ensure long-term business sustainability. This study also highlights that

integrating the BMC framework with financial analysis serves as an effective strategic planning tool for MSMEs in the laundry service sector. The results of this study also imply that other laundry MSMEs can improve sustainability by strengthening value propositions, operational efficiency, and digital utilization, while the financial findings confirm the importance of effective cost and revenue management as the basis of business strategies. Future research is recommended to incorporate additional factors such as automation technologies, fluctuations in raw material costs, and local competitive dynamics to provide a more comprehensive understanding of business resilience and long-term sustainability.

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