Lassy dairy farm business development strategy using business canvas model method

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Abstract. Lassy is one of the small medium enterprises which produces processed dairy cattle, located in West Sumatra. The number of demands that tends to increase and the superiority of products without preservatives supports Lassy Dairy Farm to expand more widely. To increase the number of products, product quality and expand the marketing area of the product in order to be able to compete with similar products, proper business strategy planning is required. This study aims to design a new business model at Lassy using the Business Model Canvas (BMC) method and SWOT analysis. IE matrix results show that Lassy rank is at cell IV, which means that Lassy is in a growing and developing state. The strategy that can be carried out by Lassy Dairy Farm is based on the results of the SWOT matrix with an intensive strategy, an integration strategy, and a diversification strategy. The main strategy that Lassy can do is intensive strategy with a total score of attractiveness of 7.272. This intensive strategy is illustrated in the business model in the proposed Business Model Canvas.

1. Introduction
The level of awareness of Indonesian people about healthy lifestyles is increasing along with the development of science. A healthy lifestyle can be started by consuming nutritious food and drinks [1]. Healthy food is to combine various types of balanced food so that it meets all nutritional needs for the body and is felt physically and mentally [2][3].

Cow's milk is a highly nutritious food for human body [4][5]. Demand for milk is growing very rapidly, the national fresh milk production in 2019 is around 996,442.44 tons per 1 year. Fresh milk production in West Sumatra Province is around 1,081.71 tons per year, Riau Province is around 90.03 tons per year, and Jambi Province is around 8.91 tons per year. That number still needs to be increased again to continue to maximize the absorption of national milk production.

One of the efforts made to increase the utilization of fresh milk is the production of cheese [6]. Cheese is a food product derived from milk processing results and has a high nutritional value [7]. Cheese has a variety of types, one of which is mozzarella cheese. In 2017 national cheese consumption was 0.252 ounces of capita per year, an increase of 240% compared to 2014.

Lassy is a dairy farm that is engaged in producing and marketing fresh milk products and mozzarella cheese. This farm located in Nagari Lasri, Regency. Canduang, Agam, West Sumatra has been established since 2015. This farm produce around 100 liters of pure cow's milk and 15 kg of mozzarella cheese per day. Lassy must determine a future business strategy design based on current business conditions and constraints. The design of this business strategy will later become an opportunity for the
company to be able to develop its business and be able to minimize the obstacles. Therefore, an update on the Lassy business model is needed as an improvement of the current Lassy business model.

Implementation of Business Model Canvas (BMC) at Lassy can find out the actual condition of the current Lassy business model and provide business model innovations going forward. BMC is a method that describes the business model of an organization simply and provides and captures the value of business activities carried out to make money. There are so many researches that used BMC as tools in business strategy [8-11]. BMC will look at the relationship between each business element in Lassy so that it can provide value for companies and consumers.

2. Methods
The method used in this study is the Business Model Canvas (BMC) to describe the current Lassy business model and provide the proposed business model described in the Business Model Canvas. Before making a proposed Business Model Canvas, SWOT analysis of each of the Business Model Canvas key elements is carried out to find out clearly how the external opportunities and threats faced by the company and its strengths and weaknesses. SWOT analysis will produce alternative strategies which will later be considered in the preparation of the Lassy Dairy Farm business model development that is described in the Business Model Canvas.

2.1. Design Business Model Canvas
Lassy Dairy Farm's Business Model Canvas IKM is currently based on interviews with companies of the nine Business Model Canvas blocks. First, we need to identify the nine Business Model Canvas blocks. Then, Grouping nine Business Model Canvas block elements into four variables, namely the value proposition, cost and income, infrastructure, and customer relations [2]. Variables and questions related to Business Model Canvas can be seen in Table 1.

| Variable                  | Sub Variable | Question                                                                 | Code |
|---------------------------|--------------|--------------------------------------------------------------------------|------|
| Value Proportions         | Value        | 1. What values do you want to build to customers                         | VP1  |
|                           | Proportions  |                                                                           |      |
|                           | Revenue      | 2. The source of your income?                                             | RS1  |
|                           | Stream       | 3. What is the pricing mechanism?                                         | RS2  |
| Cost and Revenue          | Cost         | 4. What costs are incurred?                                               | CST1 |
|                           | Structure    | 5. What is the most expensive resource in running a business?             | CST2 |
| Infrastructure            | Key Resources| 6. What are the main resources?                                           | KR1  |
|                           |              | 7. What infrastructure does Lassy Dairy Farm have?                        | KR2  |
|                           | Key Activity | 8. What activities does Lassy Dairy Farm do?                             | KA1  |
|                           | Key          | 9. Who are the partners of Lassy Dairy Farm?                             | KP1  |
| Partnership              | Customer     | 10. Who is a customer of Lassy Dairy Farm?                               | CS1  |
|                           | Segment      |                                                                           |      |
|                           | Channel      | 11. What channels are used to convey the value proposition by Lassy Dairy Farm? | C1   |
| Customer Relationship     |              |                                                                           |      |
|                           | Customer     | 12. How does Lassy Dairy Farm build customer relationships?              | CR1  |
|                           | Relationship | 13. How does Lassy Dairy Farm maintain relationships with customers?     | CR2  |
|                           |              |                                                                           |      |
2.2. **SWOT Analysis**

SWOT analysis is used to determine the state of the internal environment (strengths and weaknesses) and the external environment (opportunities and threats) [12–15]. SWOT analysis assesses the elements of a business model through four perspectives, while the BMC provides a focus on a structured variable. These elements have included into four main areas of business namely supply, customers, financial sustainability and infrastructure.

2.3. **Proposed Business Model Canvas**

The making of a new business model of Lassy is based on the results of the formulation of the previous strategy and is illustrated on the Business Model Canvas.

3. **Discussion**

The current Lassy Dairy Farm Canvas Business Model and SWOT analysis show internal conditions in the form of strengths and weaknesses and external conditions in the form of opportunities and threats owned by Lassy. The results of this SWOT analysis will later become a reference in the formulation of Lassy Dairy Farm's IKM business strategy.

**Table 2.** Lassy dairy farm current business model

| Elements of the Business Model Canvas | The current Lassy Dairy Farm Business Model Canvas |
|--------------------------------------|--------------------------------------------------|
| **Value Proposition**                | 1. Healthy Food                                 |
|                                     | 2. Fresh from the Oven                          |
|                                     | 3. Local Product                                |
| **Revenue Stream**                  | 1. Biggest income from Mozarella Cheese         |
|                                     | 2. Pricing based on market surveys and customer capabilities |
| **Cost Structure**                  | 1. Employee Salary Cost                         |
|                                     | 2. Livestock Feed Cost                          |
|                                     | 3. Transportation Cost                          |
|                                     | 4. Production Cost                              |
|                                     | 5. Land and Building Cost                       |
|                                     | 6. Cows Purchasing Cost                         |
| **Key Resource**                    | 1. Land                                         |
|                                     | 2. Dairy Cows                                   |
|                                     | 3. Building                                     |
|                                     | 4. Human Resources                              |
| **Key Activity**                    | 1. Breeding dairy cows                          |
|                                     | 2. Production of Fresh Milk and Mozarella Cheese |
|                                     | 3. Product Marketing                            |
| **Key Partnership**                 | 1. Animal Husbandry Department                  |
| **Customer Segment**                | 1. Under-Middle Class                           |
|                                     | 2. Online Reseller                              |
|                                     | 3. Young Mother                                 |
| **Channel**                         | 1. Marketing through social media               |
| **Customer Relationship**           | 1. Online serve                                 |
|                                     | 2. Providing educational tour                   |
|                                     | 3. Healthy Product Guarantee                    |
3.1. Making the Current Business Model Canvas
The making of the business model is currently based on the results of interviews with Lassy regarding the nine elements of the Business Model Canvas block. After analyzing the current business model, then making a current Business Model Canvas. The current Lassy business model can be seen in Table 2 above.

3.2. Internal and External Environment
SWOT analysis is used to determine the state of the internal environment (strengths and weaknesses) and the external environment (opportunities and threats) of Lassy Dairy Farm. Indicator questions on the questionnaire were adapted from the book Business Model Generation.

Four variables used in the analysis of the external environment are:

- Costs and revenues consist of cost structure and revenue streams
- The infrastructure consists of key resources, key activities and key partnerships
- Value propositions consist of value propositions
- Customer relationships consist of customer segments, channels, and customer relationships

4. Strategy Formulation
The results of the strategy formulation stage are priority strategies for developing the Lassy Dairy Farm business. After obtaining a priority strategy from the results of the strategy formulation, the strategy is then described as a new business model using Business Model Canvas.

4.1. Input Stage
The input stage is the initial stage in strategy formulation. The input stage consists of the Internal Factor Evaluation (IFE) matrix and the External Factor Evaluation (EFE) matrix. This input phase uses the results of the company's internal and external environmental analysis in the form of company opportunities and threats indicators as well as strengths and weaknesses of the company.

4.1.1. Internal Factor Evaluation (IFE) Matrix
Internal Factor Evaluation Matrix is a tool in the formulation of strategies that identify and assess the strengths and weaknesses of businesses to determine the internal conditions of Lassy. This assessment is done by giving weights and ratings to indicators of strengths and weaknesses.

Based on the Internal Factor Evaluation (IFE) matrix above, the total IFE matrix score is 3.34. The score for strengths is 3.19 and the score for weakness is 0.16. The results of this total score indicate that Lassy is internally in a strong position.

4.1.2. External Factor Evaluation (EFE) Matrix
The External Factor Evaluation Matrix is a tool in the formulation of strategies that identify and assess the strengths and weaknesses of businesses to determine the external conditions of Lassy.

Based on the External Factor Evaluation (EFE) matrix above, the total EFE matrix score of 2.81 is obtained. The value of the score for the opportunity that is equal to 1.71 and the score for threats that is equal to 1.10. The main opportunity at Lassy is based on the highest score of recurring income from loyal customers. This can be improved by maintaining good relations with customers and improving the quality of products and services provided.

4.2. Matching Stage
The matching phase consists of an Internal-External (IE) matrix and a Strength Weakness Opportunity Threat (SWOT) matrix. IE Matrix aims to determine the company's position based on internal factors and external factors of the company. At the input stage, the total score for the IFE matrix is 3.34, which
indicates a strong internal position and the total score for the EFE matrix is 2.81, which indicates a moderate external state. The results of the IE matrix can be seen in Figure 1.

![Figure 1. Internal-external matrix](image)

Based on the IE matrix above, it can be seen that the position of Lassy is in cell IV. The strategies that can be carried out by Lassy are intensive or integrated. An intensive strategy can be in the form of product development, market development, and market penetration [1].

### Table 3. Alternative strategy results from the matching phase

| Matrix Type | Strategy | Information | Strategy Type |
|-------------|----------|-------------|---------------|
| IE Matrix   | Product Development | Increase product added value | Intensive Strategy |
| IE Matrix   | Market Development | Establish a store that is easily accessible to consumers | Intensive Strategy |
| IE Matrix   | Market Penetration | Cooperating with Supermarkets | Intensive Strategy |
| SWOT Matrix | S-O Strategy | Add product types and variants | Diversification Strategy |
|             |           | Collaborate with businesses that use pure milk and cheese | Integration Strategy |
|             |           | Increase online promotions and sales | Intensive Strategy |
| SWOT Matrix | W-O Strategy | Utilize technology in the production process | Intensive Strategy |
|             |           | Improve product quality and service to attract consumers | Intensive Strategy |
| SWOT Matrix | S-T Strategy | Expanding business networks by adding business partners | Integration Strategy |
|             |           | Increasing production capacity | Intensive Strategy |
| SWOT Matrix | W-T Strategy | Implement a pre-order system for loyal customers and payments are made when ordering products | Intensive Strategy |
|             |           | Develop HR capabilities so that they can work effectively and efficiently | Intensive Strategy |
4.2.1. SWOT Matrix. The SWOT matrix is an important matching tool to help develop four types of company strategies. Each alternative strategy is grouped according to the type of strategy, namely intensive strategy, integration, and diversification.

4.3. Decision Stage
The decision stage is carried out using the Quantitative Strategic Planning Matrix (QSPM) technique. This QSPM technique uses the strategy of Internal-External (IE) matrix analysis and the strategy of SWOT matrix analysis at the matching stage. This technique will objectively produce priority strategies from all existing alternative strategies. Alternative strategies obtained from the Internal-External (IE) matrix analysis and strategies from the SWOT matrix analysis can be seen in Table 3.

4.4. Business Model Canvas Proposed
The Business Model Canvas proposal is given based on an analysis of the previous strategy formulation. The formulation of Lassy's business development strategy resulted in 10 new strategies. The analysis of each intensive strategy is as follows:

- Increase the added value of the product
  Improving product packaging and giving product brand stickers can increase product added value. Neat and attractive packaging can attract buyers' attention, thereby increasing sales.
- Build a kiosk that is easily accessible to consumers
  The location of Lassy Dairy Farm is difficult to reach by consumers due to the location of the factory which is far from the city center and main roads. In order to make it easier for consumers to reach products, Lassy needs to build a small kiosk located on the main road and close to the city center.
- Cooperating with supermarkets
  Apart from building small kiosks, collaborating with supermarkets also makes it easier for consumers to reach products.
- Expanding the marketing area
  Lassy Dairy Farm is the only cheese producer in Sumatra, of course Lassy Dairy Farm has to reach the market to all provinces in Sumatra as well as several provinces in Java. This can increase sales as well as gain new customer segments.
- Increase online promotion and sales
  Lassy Dairy Farm sells online by joining the marketplace. The Indonesian people are now familiar with the marketplace, thus enabling IKM Lassy Dairy Farm to reach a wider market and more customers. This strategy is an effective way to maintain business in the midst of the current pandemic.
- Utilizing technology in the production process to increase efficiency
  Technology or machines can reduce high operational costs and can shorten production times so that work becomes effective and efficient.
- Improve product quality and service
  If customers buy products in large quantities and are still in the area around Agam, Lassy Dairy Farm provides product delivery services directly to consumers. This can increase customer satisfaction with the services provided. This strategy is also effective in maintaining business in the midst of the current pandemic.
- Increase production capacity
  Lassy Dairy Farm's current production capacity is classified as low because the existing capacity has not been able to meet product demand. Lassy Dairy Farm needs to increase production capacity so that customers do not move to competing product manufacturers.
• Implementing a pre order system for loyal customers
  Implementing a pre-order system for loyal customers who buy products in large quantities and payments are made at the time of ordering products, so Lassy Dairy Farm receives payment before producing products. To keep customers loyal, Lassy Dairy Farm needs to provide special programs for loyal customers, such as giving discounts on certain purchases.

• Developing human resource capabilities to work effectively and efficiently
  Provide motivation to employees so that the desires of employees and company goals can be achieved. Furthermore, by conducting training and employee development to increase employee productivity so that production activities run smoothly and company goals are achieved.

The new business model of Lassy can be seen in Table 4.

**Table 4.** Lassy dairy farm business model canvas proposed

| Elements of the Business Model Canvas | The current Lassy Dairy Farm Business Model Canvas |
|--------------------------------------|--------------------------------------------------|
| **Value Proposition**                | 1. Healthy Food                                  |
|                                     | 2. Fresh from the Oven                           |
|                                     | 3. Local Product                                 |
|                                     | 4. Increase product added value                   |
| **Revenue Stream**                  | 1. Biggest income from Mozzarella Cheese         |
|                                     | 2. Pricing based on market surveys and customer capabilities |
| **Cost Structure**                  | 1. Employee Salary Cost                          |
|                                     | 2. Livestock Feed Cost                           |
|                                     | 3. Transportation Cost                           |
|                                     | 4. Production Cost                               |
|                                     | 5. Land and Building Cost                        |
|                                     | 6. Cows Purchasing Cost                          |
| **Key Resource**                    | 1. Land                                          |
|                                     | 2. Dairy Cows                                    |
|                                     | 3. Building                                      |
|                                     | 4. Human Resources                               |
|                                     | 5. Human Resources Training and Development      |
| **Key Activity**                    | 1. Breeding dairy cows                           |
|                                     | 2. Production of Fresh Milk and Mozzarella Cheese|
|                                     | 3. Product Marketing                             |
|                                     | 4. Market products outside the West Sumatera, Riau and Jambi regions |
|                                     | 5. Utilizing technology during the production process and raising livestock |
|                                     | 6. Increase the capability of production         |
| **Key Partnership**                 | 1. Animal Husbandry Department                   |
| **Customer Segment**                | 1. Under-Middle Class                            |
|                                     | 2. Online Reseller                               |
|                                     | 3. Young Mother                                  |
| **Channel**                         | 1. Marketing through social media                |
|                                     | 2. Build store that easy to reach by customer    |
|                                     | 3. Increase promotion and sales through marketplace |
| **Customer Relationship**           | 1. Online Serve                                  |
|                                     | 2. Providing Educational Tour                    |
|                                     | 3. Healthy Product Guarantee                     |
|                                     | 4. Increase Product Quality and Services         |
|                                     | 5. Implement pre-order system and discount for loyal customer |
5. Conclusion
The conclusion obtained from the results of this study is a strategy recommendation for a new business model illustrated in Business Model Canvas. The Business Model Canvas method describes Lassy Dairy Farm’s current SME business model and provides a proposed business model. The SWOT analysis will provide alternative strategies that will later be considered in the preparation of the Lassy Dairy Farm business model development described in the Business Model Canvas. The strategies for each element are as follows:

- Value Proposition, increase product added value (packaging improvement)
- Key Resource, HR training and development
- Key Activity
  - Market products outside West Sumatra, Riau and Jambi areas
  - Utilizing technology in the production process and raising livestock
  - Increase production capacity
- Key Partnership, cooperating with supermarkets
- Channel
  - Set up a kiosk that is easily accessible to consumers
  - Increase promotions and sales through the marketplace
- Customer Relationship
  - Improve product quality and service (delivery to destination)
  - Implement a pre-order system and provide discounts for loyal customers

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