

# The Study of Business Model for Soygurt Product on Small-Scale Rural Agro-Industry Development Using BCG and SWOT Analysis

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## Abstract

The economic value of soybean yield in production center area needs to be increased. The study of business model for soy milk yogurt (soygurt) product development was conducted as a consideration in small-scale rural agro-industry development in soybean production area. This paper aims to arrange business model in the development of soy milk yogurt product in small-scale rural agro-industry development. The research methods are BCG (Boston Consulting Group) model and the analysis of strength, weaknesses, opportunity, and threat (SWOT). Some efforts such as Promotion and marketing media, the KUB's (Joint Business Group or JBG) manager organization, and the community involvement need to be run to make the production of soygurt product to achieve break event point as well as to get profit in small-scale rural agro-industry. The improvement is mainly necessary on the product segment target, value chain in product distribution, cost model in soygurt product's feasibility, and organization in the implementation activity. The study of SWOT model raises alternatives of strength-opportunity, strength-threat, and weakness-opportunity obtained in the small-scale rural agro-industrial development in order to become a regional featured product in producing yogurt made of soybean.

## Keywords

Yogurt, Soy Milk, BCG Model, Soygurt, SWOT analysis.

## 1. Introduction

Soybean is an important food crop for Indonesian, which is in the third place after rice and corn. It is a high-protein crop and plays an important role in improving food security in Indonesia. Soybean is an important source of vegetable protein to increase the community nutrition due to its safety for health and cheapness. Soybean milk as a post-harvested product contains fat, carbohydrates, calcium, phosphorus, iron, pro-vitamin A, Vitamin B complex (except B12), and water (Astuti et al., 2012). The need of soybean continues to increase along with the growth of population as well as the need of food industry materials such as tofu, *tempeh*, soy sauce, soy milk, *tauco*, snack, and so on.

Soybean, as a processed food material, has potency to play role in developing Small and Medium-Sized Enterprise (SME), and local potential in realizing food security in Indonesia. The Government has prepared Soybean Roadmap and determined the target of national soybean production, and the yields were expected to increase year by year (Direktorat Pangan dan Pertanian, 2013). The areas of soybean production center to support the soybean productivity

are developed in some regions in Central Java, including Grobogan, Demak, Pati, Blora, Rembang, Sragen and Wonogiri Regencies. However, the soybean planting area tends to decrease, and there is hardly new area expansion. It is due to the low farmers' interest in local soybean because of the low price of soybean in the market. Its economic value can be increased through several processed soy bean such as *tempeh*, tofu, soy sauce, and soygurt (Radiyah, 1992). The potential of soybean processed into soygurt, as an industrial product, needs to be developed. Soygurt is a fermented soy milk product which uses bacteria culture (pure culture) of *Streptococcus thermophilus* dan *Lactobacillus bulgaricus*, which has been commonly used in the yogurt making process (Drake et al., 2000). Fermentation is one of the ways carried out and proven to be able to improve the nutritional value and acceptability of soy milk. (Nirmagustina and Wirawati, 2014). Moreover, Soygurt also has several advantages in its lactic acid bacteria fermentation process, namely: balancing the digestive system, reducing cholesterol level, preventing cancer, and treating fungal and bacterial infection (Hendriani, 2009). The strength of soygurt is that it does not contain cholesterol and lactose; thus, it is suitable to be consumed by people with lactose intolerance (BPTP, 2012; Nirmagustina and Wirawati, 2014).

The important factors of attributes in product development are needed to be known (Kotler and Keller, 2011). Some important factors in Soygurt product development need to be highlighted in this research. BCG model for analysing strategy for firms or industry has been vastly used and published in many publications such as Roy (2020), Chiu, and Lin (2020), and Guță (2017). SWOT analysis has also been very popular to determine the strategy such as Kamran et al. (2020), Zima et al. (2020) and Hosseini et al. (2020). Based on the query in SCOPUS website, we know that the publication that used both analysis methods simultaneously is still rare. Using query (TITLE-ABS-KEY (SWOT) AND TITLE-ABS-KEY (BCG)), we found only eleven publications. When we used query (TITLE (SWOT) AND TITLE (BCG)), it was only one publication that is Schrippe et al. (2013). It will give a contribution to know how is the implementation in a developing country, Indonesia, especially in Small and Medium-Sized Enterprise (SME).

The purpose of this research is to develop a business model using BCG and SWOT analysis method in developing Soygurt product in the small-scale rural agro-industry in soybean production center. The Soygurt business model is conducted to arrange an attribute of the value proposition (target segment, product offering, and revenue model) and operational model (value chain, cost model, and organization) based on BCG model. Then we use SWOT for describing a map of strength, weakness, opportunity, and threat of Soygurt product as well as the strategy applied. The development of Soygurt business model in the SME will be a benchmark for the development of regional SME. The business model development is expected to bring Soygurt SME to be competitive in regional and national level.

## **2. Method**

This research was carried out in JBG Setia Budi, Grobogan Regency, which produces soy milk to be developed as Soygurt. This research steps are as follows:

- **Field Observation**  
Conducting direct observation, the results obtained are data on sales volume, marketing, and purchasing power of the product offered.
- **Problem Identification** Identification is to find out problem in determining Soygurt business model produced by the Joint Business Group in processing soybean.
- **Research Purpose**  
The aim of this research is based on problem identification carried
- **Data Collection and Processing**  
Data collection and processing involve
  - Important factor attribute in soygurt development.
  - BCG model analysis BCG model of Soygurt Product and Proposed Development
  - SWOT analysis and Strategy for Soygurt Business Model Development
- **Data Analysis, Result, and Discussion**  
After the step of determining important attribute according to the consumer's perception toward Soygurt product made of soybean from local farmers in production center area, followed by BCG analysis on the constituent component in the current condition and BCG analysis on the proposed Soygurt Business Development expected to meet the target of the small-scale rural industry development. Local varieties of soybeans have the quality and freshness as raw material for industrial processing (Ginting et al., 2009). The final stage in this study is used the analysis of the SWOT model and the Soygurt Product Development Strategy for the superior base of soybean production areas

### 3. Result and Discussion

#### 3.1 BCG Model of Soygurt Product

BCG model is arranged in determining the position of Soygurt Product (The current condition and Proposed Soygurt Product Development). The BCG Model showed in Table 1 and Table 2.

Table 1. Soy Milk Product Model (Current Condition)

	<b>Components of Value Proposition</b>
Target Segment	The targeted consumers of soy milk are local people around the production area
Service Offer (Product)	Not taking into account the promotion of Soygurt product; soygurt without preservatives will not last longer. Promotion, service, and product testing is still a part of Regional Government program.
Revenue Model	Not taking into account the compensation of Soygurt product in marketing level by JBG members.
	<b>Component of Business Model</b>
Value Chain	Product distribution is still modest; only participating in exhibitions and product demonstrations at the district and provincial levels.
Cost Model	Not carrying out a detail budgeting on Soygurt product.
Organization	Organization structure of JBG has not been decided yet because the members often change.

Table 2. BCG Model (Proposed Improvement)

	<b>Components of Value Proposition</b>
Target Segment	Target segment of product has been determined clearly according to the specification and product criteria of Soygurt from the consumers' perception.
Service Offer (Product)	The offered product specification on the criteria of excellence obtained, targeted user, and the benefits of the product are stated clearly.
Revenue Model	Calculation for the compensation of product marketing, promotion, and budgeting have been considered.
	<b>Component of Business Model</b>
Value Chain	Product distribution is considered based on the market target, marketing location, and Soygurt development as a regional superior product.
Cost Model	Analyzing the feasibility of product price and BEP calculation.
Organization	Organization structure is integrated.

#### 3.2 SWOT Model and Strategy for Soygurt Product Development

SWOT Model and Strategy for Soygurt Product Development as well as recommended strategy are given at the end of the business model arrangement for Soygurt product that has been carried out. SWOT analysis is conducted with a study of the environment of internal strength and weaknesses as well as the external opportunity and threat faced in the business world. SWOT analysis compares the external factor of opportunity and threat to internal factors of strength and weakness. SWOT analysis identifies several factors systematically to formulate the company's strategy. JBS performance in producing Soygurt can be determined by the internal and external factors. Both factors have to be developed in SWOT analysis. SWOT analysis compares the external and internal factors. Based on survey and observation to JBG, discussion with JBG's executor and supervisor producing Soygurtis conducted according to the method used, that is, the first step is data collection, so that it can be known as the strength, weakness, opportunity, and threat of the Soygurt product based on the internal and external factors influenced it. Interview and observation is to identify the internal and external factors affected the success of Soygurt product in Setia Budi Joint Business Group. The complete analysis of internal environment can be seen in Table 3 while external analysis is in Table 4.

- Identification of Internal Factors

Strengths

- Ease of access and location
- Availability of the raw material
- Regional government's desire to develop

Weaknesses

- Product price that has not met the consumer's perception
- Soygurt product does not last long
- The management and schedule of the production of local soybean raw material
- Soygurt product has not been popular yet
- Limited local marketing area

Table 3. Analysis of Internal Environment

No	Point	Strength	Weakness
1.	Ease of access and location	√	
2.	Excellence of Soygurt product	√	
3.	High-quality Soygurt product	√	
4	Regional government's desire to develop	√	
5	Availability of the raw material	√	
6.	Product price that has not met the consumer's perception		√
7	Soygurt product does not last long in normal condition		√
8.	Management and schedule of the production of local soybean raw material		√
9	Soygurt product has not been popular yet		√
10	Limited local marketing area		√

Table 4. Analysis of External Environment

No	Point	Opportunity	Threat
1	Good relationship between company and supplier	√	
2	Price competition with competitors	√	
3	Building cooperation with other companies	√	
4.	The rapid development of information and communication technology through internet media and mobile cellular	√	
5.	Increased consumer's need of hygienic and healthy food	√	
6	Competitors hold the largest market share		√
7.	JBG's executor and skilled workers processing <i>tempehas</i> experienced job mutation.		√
8	Soygurt price is more expensive than processed soy product such as tofu and <i>tempe</i> at the market		√
9	JBG lacks cooperation, promotion, and communication with the external party and stake holder		√
10	JBG's Soygurt product is still inferior compared to factory products		√

- Identification of external factor

#### Opportunity

- Good relationship between company and supplier
- Price competition with competitors
- Increased consumer's need of hygienic and healthy food

#### Threat

- Competitors hold the largest market share
- JBG's executor and skilled workers processing *tempeh* has experienced job mutation.

### 3.3 Analysis Using Internal-External Matrix

The prior analysis on strength, weakness, opportunity, and threat on JBG in producing Soygurt obtains 5 main factors identified can affect JBS development. Qualitative factors are then analysed with a quantitative method by giving score for each factor. The score is given from the SWOT questionnaire to the respondents. The following tables (table 5 and table 6) contain the internal factor matrix consisting of strength and weakness and external factor matrix consisting of opportunity and threat. The adjustment phase includes IE (Internal-External) matrix in SWOT (Strength-Weakness-Opportunity-Threat). The IE matrix of the company can be seen in Table 5 and Table 6.

Based on IFAS and EFAS matrix, the company is in the position of Conglomerate Diversification Effort that JBG needs to conduct. In such condition, the diversification effort in strengthening external factors is conducted by JBG to increase the growth level. It can be achieved by improving new product, access to a wider market, and the use of information technology. Those ways can be done by utilizing information resources tools to increase the information and market access to Soygurt product, improving new product and its derivative product in the form of fast food that is long-lasting without reducing the quality.

Table 5. IFAS Matrix

No	Internal factors	Weight	Rating	Value
<b>STRENGTH</b>				
1	Ease of access and location	0,15	3,26	0,489
2	Excellence of Soygurt product	0,125	3,22	0,402
3	High-quality Soygurt product	0,1	3,37	0,337
4	Regional government's desire to develop	0,075	3,17	0,237
5	Availability of the raw material	0,05	3,24	0,162
<b>WEAKNESS</b>				
1	Product price that has not met the consumer's perception	0,2	2,31	0,462
2	Soygurt product does not last long in normal condition	0,15	3,24	0,486
3	Management and schedule of the production of local soybean raw material	0,075	2,32	0,174
4	Soygurt product has not been popular yet	0,05	2,29	0,114
5	Limited local marketing area	0,025	2,22	0,055
Total		1,00		2,918

Noted:

Rating 4 = major strength, Rating 3 = minor strength, Rating 2 = major weakness, Rating 1 = minor weakness, Weight Value = weight x rating

Table 6. EFAS Matrix

No	Internal factors	Weight	Rating	Value
<b>OPPORTUNITY</b>				
1	Good relationship between company and supplier	0,15	2,38	0,357
2	Price competition with competitors	0,125	1,31	0,163
3	Building cooperation with other companies	0,1	1,26	0,126
4	The rapid development of information and communication technology through internet media and mobile cellular	0,075	2,16	0,162
5	Increased consumer's need of hygienic and healthy food	0,05	2,1	0,105
<b>THREAT</b>				
1	Competitors hold the largest market share	0,175	2,22	0,388
2	JBG's executor and skilled workers processing <i>tempehas</i> experienced job mutation.	0,125	2,49	0,311
3	Soygurt price is more expensive than processed soy product such as tofu and <i>tempe</i> at the market	0,075	2,31	0,173
4	JBG lacks cooperation, promotion, and communication with the external party and stake holder	0,05	1,04	0,052
5	JBG's Soygurt product is still inferior compared to factory products	0,025	1,08	0,027
Total		1,00		1,864

Noted: Rating 4 = Very good response, Rating 3 = Good response, Rating 2 = Enough response, Rating 1 = Bad response, Weight Value = bobot x rating

### 3.4 Determination of the alternative strategy using the SWOT matrix

SWOT matrix consists of four alternative strategies, in which each of them uses strength and opportunity to overcome weakness and threat. Alternative strategy SO (Strength-Opportunity) is a strategy to optimize the opportunity. Alternative strategy WO (Weakness-Opportunity) is a strategy of exploring opportunity by minimizing weakness. Alternative strategy ST (Strength-Threat) is a strategy to minimize weakness and to avoid threat. The Complete SWOT matrix can be seen in the following Table 7.

Based on Table 7 showed SWOT matrix, alternative strategy can be formulated below:

- Strategy SO (Strength-Opportunity)

The strategy uses strength to maximize opportunity, and it is explained below:

- Determining the identification of the middle-to-upper-class consumers as a target of the high-quality Soygurt product.
- Improving the socialization of Soygurt product, in term of the excellence of the product.

Table 7. SWOT Matrix

INTERNAL EKS- TERNAL	STRENGTH (S)	WEAKNESS (W)
OPPORTUNITY (O)	<p>S-O STRATEGY</p> <ol style="list-style-type: none"> <li>1. Identifying the Middle and Upper Consumer in the target of Soygurt Products.</li> <li>2. Developing Soybean Learning Center areas using ICT and increasing cooperation</li> <li>3. Improving the socialization of Soygurt product for the competitive advantage</li> </ol>	<p>W-O STRATEGY</p> <ol style="list-style-type: none"> <li>1. Determining the price of the soygurt product related to the level consumers</li> <li>2. Improving the promotion and market</li> <li>3. Developing derivative products which have a longer shelf life</li> <li>4. Handling raw material after post harvest of soybean and scheduling production</li> </ol>
THREAT (T)	<p>S-T STRATEGY</p> <ol style="list-style-type: none"> <li>1. Improving cooperation, promotion and communication with eksternal</li> <li>2. Establishing Managers and Skilled Workers within the contract</li> <li>3. Determining the share of consumers class at the regional areas</li> </ol>	<p>W-T STRATEGY</p> <ol style="list-style-type: none"> <li>1. Expanding information dissemination, promotion and communication</li> <li>2. Updating management and material scheduling systems for the production of soygurt</li> <li>3. Increasing JBG as a Learning Center for a medium small enterprises</li> </ol>

- Strategy WO (Weakness-Opportunity)

The strategy fixes the weaknesses by maximizing opportunity, which is explained below:

- Determining product price according to the Soygurt consumers' level, which is the middle-to-upper-class consumers
- Improving promotion and marketing
- Increasing Soygurt derivative product with additional taste
- Managing the raw material after local soybean harvest and scheduling the production

- Strategy ST (Strength-Threat)

This strategy uses strength to face or to avoid threat, which is explained below:

- Improving cooperation, promotion, and communication with external party and stake holder
- Determining the manager and skilled employers within contract period
- Determining the share of middle-to-upper-class consumers

- Strategy WT (Weakness-Threat)

The strategy fixes weaknesses to face threat, and it is explained below:

- Improving information, promotion, and communication dissemination
- Updating the management and scheduling system of Soygurt raw material
- Improving the role of JBG as a Soygurt producer

Alternative strategies of marketing based on BCG model and SWOT analysis that can be applied in industry are as follows:

- Determining of Segment target on Class Consumers for Soygurt Product Development
- Increasing JBG as Learning Center Media for Soygurt product at SME
- Increasing Promotion, Cooperation, Socialization and Education for soygurt branding

#### 4. Conclusion

Soygurt business model in Joint Business Group (JBG) has been conducted to be considered for Small-Scale Rural Industry development. According to the analysis on Soygurt product by JBG, the improvement of promotion and marketing, management of JBG organization, and the purchase interest of middle-to-upper-class consumers of Soygurt product are still necessary to bring Soygurt product to the break event point and to generate profit for Small and Medium-Sized Enterprises (SMEs). The study of BCG model on its constituent components for Soygurt produced by JBG needs to be improved. The improvement is mainly necessary in terms of the product segment, value chain in product distribution, and the cost model in the Soygurt production's feasibility within the break event point, and the management of JBG organization.

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