

OPERATION STRATEGY FORMULATION IN GKSI BOYOLALI MILK TREATMENT INDUSTRY

Reyhan Zachary and Gatot Yudhoko
School of Business and Management
Institut Teknologi Bandung, Indonesia
reyhan.zachary@sbm-itb.ac.id

Abstract- GKSI (Union of Indonesian Dairy Cooperatives) Boyolali is milk treatment industry currently specializing in condensed milk and focus to do B2B as contract manufacturer. They faced pressure on profit margin due to tighter competition and increasing raw material and utility cost. The company did not success on fulfilling market requirement and managing their resources affecting to uncompetitiveness on their business. The purpose of this research is to propose strategy formulation to improve their performance through corporate, business, operation strategy. Conceptual model to be used in this research is strategic management model about strategy hierarchy and operation strategy model by Slack and Lewis. The data to support analysis were collected through in-depth interview with people in the company, observation, historical data of the company, and information from public news. Corporate strategy formulation began by doing external and internal analysis, then summarizes it into SWOT. Then, it would use IFAS-EFAS, Grand Matrix, GE Matrix, and TOWS Matrix to determine directional strategy. Business strategy would use Porter Competitive Strategy. As final output, operation strategy formulation would determine performance objectives that considered pivotal for the company. Then, it continued by determining the excellent strategy through operation strategy matrix with prioritizing the certain area that become critical structural and infrastructural decision. In corporate level strategy, the direction of company is stability and selective investment. Business strategy that suit the most for their current condition and capability is differentiation. With quality and speed are the most pivotal performance objectives, the company should focus to acquire cooling technology for production process (structural decision), product and service development and improve standardization on production (infrastructural decision). On implementing those strategies, they could try to install tubular heat exchanger, improve customization level, and improve HACCP (Hazard Analytical Critical Control Point) system implementation in production process.

Keywords: Milk Treatment Industry, Contract Manufacturer, Operation Strategy, Structural and Infrastructural Decision

Introduction

GKSI (Union of Indonesian Dairy Cooperatives) Boyolali Milk Treatment Industry is manufacturer established by cooperatives. GKSI Boyolali have two roles, which are social and commercial roles. Social role shown by utilization of local fresh milk in Boyolali Regency and surrounding regions as raw material for production. This is the way of supporting government program on improving the prosperity of cow farmers there. Commercial role is shown by company to gain profit from the business they do in dairy industry. GKSI Boyolali milk treatment industry was business unit of GKSI (Gerakan Koperasi Susu Indonesia) presently focusing to produce sweetened-condensed milk. Currently, GKSI Boyolali milk treatment industry was focus to do B2B as contract manufacturer. The contract manufacturer is third party who does kind of job doing cooperation with brand owner to produce their product. Business customers did this outsourcing due to lack of production machine or financially did not give much profit if they must invest new plant or facility. In GKSI side, they have advantage with do not have to allocate

marketing cost too much. In this situation, contract manufacturing has become best alternative that gives benefit for both parties.

According to Saleh Husin, Ministry of Industry, growth of milk treatment industry in 2014 was about 14 %, increased from 2013, which was about 12%. Otherwise, GKSI Boyolali industry currently faced pressure on profit margin due to tighter competition and increasing raw material and utility cost. In last few years, besides other milk treatment industry that was continuously improving performance, the existing of some company specializing in importing dairy products could distract domestic dairy industry market. Considering that tight competition and unfavorable condition, GKSI Boyolali need to design the strategy to maintain competitive position in the market place. To be remain competitive, the company need to satisfy the market demands. In order to satisfy market requirement, the company need to achieve superior manufacturing. Manufacturing or operation decision the company make would have an effect on business strategies and, in the end on competitiveness. To gain and maintain competitive advantage, it is important to make the right decision in operation that support the overall objective of the company and meet the requirement (Löfving, 2014).

Methods

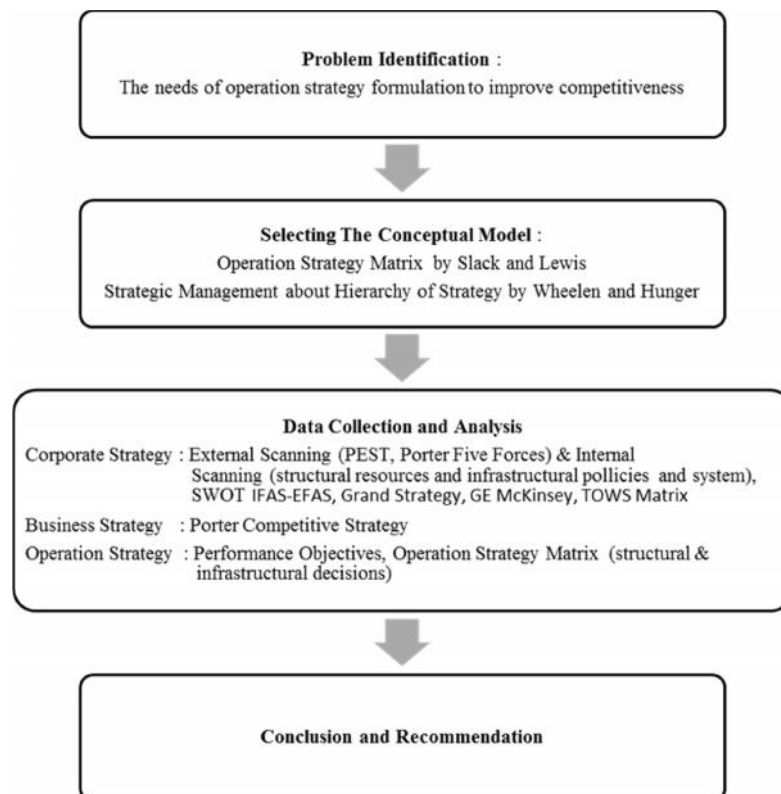


Figure 1. Methodology of Research

As shown in Figure 1, the research begins by doing plant visit in Boyolali Regency to know the current condition of the object research and its environment. Then, the researcher could identify the problem happened in the company which is the need of improving competitiveness of its business focusing on operation function. Method used in this research to solve the problem is operation strategy model by Slack and Lewis (2008) and strategic management by Wheelen Hunger (2011). The desired final output of analysis are operation strategy and implementation plan on improving competitiveness of GKSI Boyolali milk treatment industry.

In collecting the data, it was done by primary and secondary data about operation process in the company and environment influencing the industry. The primary data was acquired by doing observation focusing to operation process and doing in-depth interview with several employees at the plant. The secondary data was acquired by asking historical data regarding to operation to the company and searching information or article from internet, books, and journal.

In this research, operation strategy is developed with guidance of corporate and business strategy. The corporate strategy will define the direction of the company concerning about capability while business strategy will define how the business compete concerning competitive advantage should be developed to be competitive in the market. In corporate strategy formulation, it was begun by analyzing external and internal of the company to identify the factors that affect company performance, and then will be summarized into SWOT factors. From the SWOT factors, we can identify how well company to respond to the factors by total weighted score on IFAS-EFAS and select suitable direction of the company based on the score on Grand Strategy. Besides, using interaction between SWOT factors, they could be formulated on TOWS strategy to define attributes that needed and could be pursued to compete in their business. As complement, GE Matrix that analyze business strength and market attractiveness will be used to define how company should invest on the business.

In business strategy formulation, considering product and its customers, it could be formulated what competitive strategy that suit for the business using porter competitive strategy. How to develop the competitive strategy will be influenced by the direction result analysis in Grand Strategy and GE Matrix. How competitive advantage should be developed on competitive strategy will be using its relationship with TOWS Matrix analysis resulting value attributes.

After defining value attributes or competitive factors, then they will be determined the pivotal level of them for company to compete in their market as performance objectives on operation strategy formulation. To pursue the performance objective desired, it will be using structural and infrastructural decision in operation strategy matrix affected by resources and capabilities of the company. Structural decisions relate to tangibles such as buildings, equipment, the way equipment and personnel are organized in processes and the business links to other businesses. Infrastructural decisions relate to systems used to enhance the utilization of the structural resource to control those resources so the business achieves high levels of productivity. After formulating all decisions, then they will be rated in terms of critical level. The very critical level is the operation strategy focus first. After the priority operation strategy is decided, the strategic plan should be carried out and translated into positive actions. Therefore, the writer also will give recommendation through action plan and implementation plan to achieve its goals.

Data Analysis

Corporate Strategy

External Scanning

This section analyzes factors that affect the business from outside company through PEST analysis and Porter's Five Forces.

PEST Analysis

Politic-Legal: After the transition from previous government and conditions of nation, the current policy of government would possibly change the way business operate. The industry regulations will make the company would be more concern about what they must and must not do on industry activity. Government of the day regularly changes of legal regulations and employee management (wages, hiring, laid off, work-time). Environmental regulation from government make the company should more aware about green policy such as waste management and work environment (safety and healthy) for their employees and surrounding society.

Economical: Economical condition as global and national affect the business sustainability. Low tariff policy for imported milk in Indonesia would affect utilization of local fresh milk resource. Volatile Inflation rate due to instable condition of Indonesia would make company more concern about their industry. Fluctuation of commodity prices would affect company in planning their resource and production. Unfavorable currency rate of rupiahs to dollars make the company would be struggle to generate profit due to increasing purchasing cost of imported raw materials. Moreover, increasing of utility cost (oil, water, and electricity) will make operational cost increase more.

Social: Culture and behavior of natives surrounding industry in Boyolali will affect company on operating plant. Now days, health issue become concern among society. It has made milk consumption become trend among people. It could be proved by growing milk consumption rate in Indonesia about 7% per year (bandung.bisnis.com). Due to better profit, there are trend of shifting of cow milk farmer to beef cow farmer. From GKSI Boyolali side, it becomes concern because fresh milk resources possibly would decrease.

Technology: Automation and new operation technology in dairy production industry could help to operate operation more productive and efficient. After the existed of phone as media of business communication, internet network availability and its service could help to communicate with suppliers and business customers more practical.

Porter Five Forces

Threat of New Entrants

The threat of new entrants considered low. They need large initial investment to establish milk treatment industry. It consists of machine, raw materials, land, and building. Besides, people need knowledge and capability in dairy product processing to enter this industry. Therefore, when deciding to enter this, they should plan it carefully.

Rivalry among Existing Firms

Rivalry among existing firms could be said high. Many industry's competitors could offer same product and service. Competitive price, differentiation, quality and service would become important aspects to win competition in market. Besides that, there are particular companies that produce their own brand product while also sometimes offering outsourcing service to other companies.

Threat of Substitutes Product or Service

Threat of substitute's product is medium. From kind of condensed milk, there are made of goat, coconut milk, and soybean. But, their existence is not accepted widely by market in Indonesia and development of them has not done in big industry level shown by hard to find those products in the market. Bargaining Power of Buyers. The existence of substitute products from different industry should make the company aware. UHT, pasteurization, milk powder from same classification of dairy product become possibly substitutes for condensed milk that the company produce currently for business customers.

Bargaining Power of Buyers

From buyer perspective, the existence of product outsourcing is very helpful for them. They do not need to invest much money for building new facility to accommodate new product. They could outsource it to third party with benefit such as more efficient and less risk. However, there are possibility that business customers could break the contract if the company cannot fulfil their requirement at any time. Therefore, bargaining power of buyers in this business is medium.

Bargaining Power of Suppliers

Bargaining power of supplier is high. According to employee of GKSI Boyolali, Boyolali Regency has become the highest supplier of fresh milk in Central Java by producing around 140.000 liter per day. It is about 52% from total supplies in Central Java. It was contested by milk treatment industry surrounding. Other raw materials availability sometimes is insufficient in Indonesia, so they must be imported from overseas. Otherwise, the suppliers could be changed if there are other suppliers who could offer better price and better quality.

Internal Scanning

This section analyzes internal condition and capabilities of the company through structural resources and infrastructural policy and system.

Structural Resources Factors

Capacity

Considering the capacity of resources such as machine, human resources and number of demand, GKSI Boyolali milk treatment industry could contain fresh milk about 30 tons. After through the evaporation (process eliminating water content from fresh milk), the processed milk that could be used is 20% from total that fresh milk ordered. Based on capacity of machine, GKSI Boyolali milk treatment industry able to produce 12.000 cartoons per day. Based on realization of production in 2014, the company has produced about 1.5 million cartons. The utilization of capacity production was averagely about 60%.

Sourcing and Vertical Integration

Fresh milk as the main raw material in this industry gathered from the milk farmers surrounding Central Java especially in Boyolali Regency. The farmers could produce around 140 tons of fresh milk a day. The other raw materials and supporting materials beside fresh milk was acquired from local and overseas suppliers. Because the company had built good relationship with their suppliers, several of them accepted payment after and before goods accepted.

Facilities

The plant was located in Boyolali Regency. The position is very good for distribution of fresh milk from milk farmers. This become important thing because the best quality of fresh milk only can stand for short time. So, this advantage could make GKSI milk treatment industry use fresh milk with good quality because short distribution time from fresh milk station to plant. The plant can be categorized as medium size industry. GKSI milk treatment industry Boyolali specialized on producing sweetened condensed milk.

Information and Process Technology

To support production process in this industry, the company had several facilities (machine) technology that support milk treatment industry. It was acquired from overseas and local vendor. The technology of machine that they currently have for milk treatment are boiler, chiller, mixer, filling machine, and homogenizer. The company also has applied ICT such as internet and phone to support business activity. For raw material procurement, the company mostly ordered via e-mail.

Infrastructural Policies and System

Resources Allocation and Capital Budgeting Systems

The funding for raw material procurement, cost during operation activity, administrative and general expense is earned from several sources. The funding sources is acquired from Central GKSI funding, credit from the bank, and funding given by business customers as initial payment for raw material procurement. Based on profit margin in 2014, there was decreasing from previous year from 3.52% to

3.39%. It had lower revenue due to lower sales in the market. COGS and operating expense was lower than previous year because the amount of purchasing and utility was decreasing.

Human resources systems

Currently, the total employees in the company is 132 persons. The recruitment process conducted by company management. The salary system in the company determined by position and the responsibility of employee. For regular employee including labor, the range of salary is between 1.7 million to 10 million rupiahs. For part time employee including labor, they were paid fifty thousand rupiahs for 8 hours per day. Native people hired as labor in the company have different capability and work ethic compare to urban people. Non-education oriented or farmer led to incapable and distrust human resource for labors sometimes difficult to work as good as expected by the company.

Work Planning and Control System

In doing raw material procurement, the suppliers often set minimal quantity for their product ordered by the company. Therefore, considering the minimal quantity of order, lead-time, previous product realization, and forecasting from marketing team of business customer, the company set the safety stock for raw material procurement. Seeing, order completion performance, the company still have the thing to improve with percentage late to order completion is about more than 3 % in 2014. According to the company, the adding particular technology was needed in order to make production process work efficiently.

Quality System

In this industry, among the raw materials, quality of fresh milk has the most important part. In producing good quality, the company set quality standard for fresh milk when receiving from milk station. Quality control team divides quality control of product into three terms: production process, CIP, and retained sample. According to the company, current percentage the resample of batches production is about 2%. It shows that there is still problem in production process that company have to improve.

Measurement and Reward System

Every month the employee was assessed in terms of performance at work. If the employees did not meet the KPI (Key performance Index) that company set, they would be evaluated and would be given training. For labors who was still paid per day, if they showed good performance during their work, there is possibility they could be promoted as regular employee with fixed salary per month. For overtime labor, the company gave them some incentives so that many of them was interested with that.

Product and Process Development System

The company improve quality of current product by reformulating the product in terms of ingredient measurement, production process, and different raw material composition with the permission from brand owner/business costumer. The company has redesigned layout of plant. The impact of that decision was very good, the operation activity become more efficient. The company also had change several facilities that could improve efficiency of operation activity such as cooling system in pasteurization process.

Organization

GKSI Boyolali milk treatment industry is a business entity which is formed as cooperative. The shares of industry were owned by GKSI a Central and GKSI Central Java, a group of cooperatives which is formed from several primary cooperatives in Central Java. GKSI Central recruited top management in GKSI Boyolali to manage this milk treatment industry while most superiors of cooperative became commissioner to monitor the performance of industry. Then, top management will recruit the employee that was required for fulfill particular jobs in industry. Generally, there are managing director who manage Finance and HRD division and plant manager who manage operation division.

SWOT ANALYSIS

The SWOT analysis created by summarizing external and internal analysis done before. The analysis consists of strengths, weaknesses, opportunity, and threat factors that would influence GKSI Boyolali business activity. The data could be seen in the next section of strategy formulation.

IFAS-EFAS

To reveal condition of GKSI Boyolali and determine proper strategy for them to support the performance improvement, IFAS-EFAS will be conducted here. The IFAS-EFAS analysis can be seen in Table 1 and Table 2.

Table 1. IFAS of GKSI Boyolali Milk Treatment Industry

No.	Internal Factor	Weight	Rating	Weighted Score
Strength				
1	Specialized technology in condensed milk	0,15	4	0,6
2	Strategic location for fresh milk distribution	0,09	3	0,27
3	Good company management	0,09	3	0,27
4	Good relationship with customers and suppliers	0,12	3	0,36
Sub Total		0,45		1,5
Weaknesses				
1	Utilization of capacity production is not optimal	0,09	-3	-0,27
2	Incapable and distrust human resources	0,09	-2	-0,18
3	Inefficiency cost	0,09	-3	-0,27
4	Quality production is not optimal	0,16	-3	-0,48
5	The lateness of order completion	0,12	-4	-0,48
Sub Total		0,55		-1,68
Total Score		1		-0,18

Based on IFAS analysis, GKSI Boyolali has total weighted score - 0.18. It could be concluded that the weakness factors were more dominant than company strength. The company should solve their internal problem first to develop their business. As company focusing producing condensed milk only, the company face problem with lack of product diversification when they want to offer contract manufacturing to business customers.

Table 2. EFAS GKSI Boyolali Milk Treatment Industry

No.	External Factor	Weight	Rating	Weighted Score
Opportunity				
1	Growing demand of outsourcing service in milk treatment Industry	0,11	4	0,44
2	Awareness of milk consumption for health	0,08	3	0,24
3	Boyolali is the highest supplier of fresh milk in Central Java	0,08	4	0,32
4	Economic policy program supporting industry	0,11	4	0,44
5	Growing milk consumption rate per capita	0,11	3	0,33
Sub Total		0,49		1,77

Threat				
1	Business customers could break the contract if the company cannot fulfil their requirement	0,14	-4	-0,56
2	Instability demand	0,08	-2	-0,16
3	Fluctuation of commodity price	0,1	-4	-0,4
4	Substitute Products	0,08	-3	-0,24
5	Big company could offer contract manufacturing of condensed milk	0,11	-3	-0,33
Sub Total		0,51		-1,69
Total Score		1		0,08

Based on EFAS analysis. GKSI Boyolali has total weighted score 0.05. It could be concluded that opportunity factors have more dominant than threat factors. The company should develop their business by utilize the opportunity that support them. The opportunity in their industry considered good. Increasing of national milk consumption and government program supported development of dairy industry. However, instability of economy of Indonesia also become concern. Due to that, the commodity price and utility cost (e.g. electricity and fuel) considered high and there is instability demand from their current business customers.

Grand Strategy Matrix

In order to plot company's position in Grand Strategy Matrix, coordinate should be determined first using IFAS (Strength and Weakness) and EFAS (Opportunity and Threat) result that has been analyzed before. Based on calculation above, referring to IFAS and EFAS result, GKSI Boyolali milk treatment industry is

The X axis position (IFAS)

Total of Strength weighted score ($\sum S$) = 1.5

Total of Weakness weighted score ($\sum W$) = -1.68

The X axis position (EFAS) = ($\sum S + \sum W$) = **-0.18**

The Y axis position (EFAS)

Total of Opportunity weighted score ($\sum O$) = 1.77

Total of Threat weighted score ($\sum T$) = -1.69

The Y axis position (IFAS) = ($\sum O + \sum T$) = **0.08**

plotted in Quadrant 2 which is "stability" (Figure 2), where the x coordinate falls in - 0.18 and y coordinate falls in 0.08. The situation means that they are currently are positioned in Quadrant 2. The company need to evaluate their present approach to market because their industry is growing but they are unable to compete effectively. Therefore, the company need to overcome their weaknesses so that they could do better in market opportunity.

Considering the result and condition of milk treatment industry, the writer suggest the company to develop through product and market development strategy. With the role as contract manufacturer in business costumer's supply chain, the company sales determined by ability of business costumer to commercialize the product. Therefore, the company should support them by doing product development with expectation of better product value through improving quality, adapting with existing trend and behavior of consumer, substitute raw material. To develop their business, the company also could consider to do market development. It could help them not depend too much with the brand owner on generating sales. GKSI Boyolali considered still want to operate as B2B (Business to Business) and condensed milk is still the only industry that company want to focus for further years according to management. Therefore, besides as contract manufacturer, using product development done earlier

they also could to consider seek another target market as supplier for food or beverage industry that need condensed milk as their raw material.

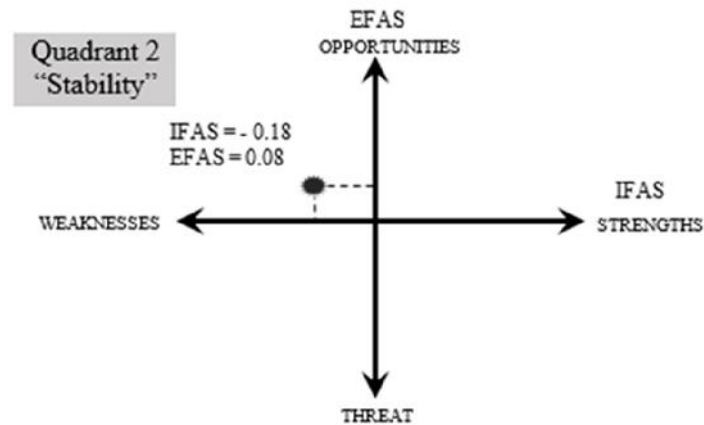


Figure 2 GKS I Milk Treatment Industry Position on Grand Strategy Matrix

GE/McKinsey Matrix

To plot position of the company in the matrix, the of business strength and industry attractiveness factor that should be listed and calculated shown below.

Table 3. Industry Attractiveness and Industry Strength Factor Analysis

No.	Industry Attractiveness Factor	Weight	Rating	Weighted Score
1	Market Size	0,15	2	0,3
2	Market growth rate	0,15	3	0,45
3	Industry Rivalry	0,12	3	0,36
4	Macro environmental factors (PEST)	0,18	3	0,54
5	Industry profitability	0,18	3	0,54
6	Demand Variability	0,12	3	0,36
7	Workforce Availability	0,1	3	0,3
Total		1		2,85

No.	Business Strength Factor	Weight	Rating	Weighted Score
1	Market Share	0,15	2	0,3
2	Market Share growth	0,15	2	0,3
3	Production Capacity	0,12	3	0,36
4	Profit Margin	0,15	2	0,3
5	Customer's loyalty	0,15	3	0,45
6	Production Quality	0,16	3	0,48
7	Production Flexibility	0,12	2	0,24
Total		1		2,43

According to Table 3, the industry attractiveness has score 2.85 while the business strength has score 2.43. The most logical position of GKS I Boyolali milk treatment is in **Medium Industry Attractiveness** and **Medium Competitive Business** (Figure 3). Following the theory of GE/McKinsey (viplavkambli.com),

the strategic recommendation for that position is "Segment and Selective Investment". The Strategy of "Segment and Selective Investment" refers to the strategy where the business units have average business strength and average industries; it could be improved by creative segmentation to create profitable segments and selective investment to support segmentation strategy. The business should concentrate to invest where the profitability is good and risk are relatively low. Now, the company should focus on business that they specialize.

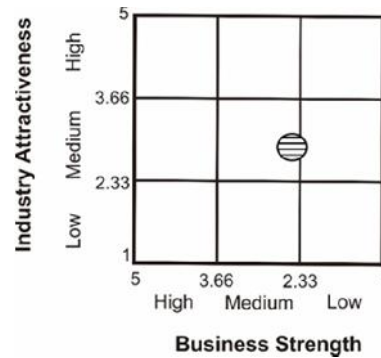


Figure 3 GSKI Milk Treatment Industry Position on GE McKinsey Matrix

TOWS Matrix Analysis

This analysis use the strategic factors based on SWOT analysis that explained in previous section. It consists of alternative strategies that can be used for the company using interaction between internal (strength and weakness) and external (opportunity and threat) factors. It could be seen in Table 4.

Table 4 TOWS Matrix Analysis

	Strengths (S)	Weaknesses (W)
Opportunities (O)	Opportunity-Strength Strategy <ul style="list-style-type: none"> Improving utilization of existing local fresh milk resource for industry production (S₂, S₅, O₃, O₄, O₅) 	Opportunity-Weaknesses Strategy <ul style="list-style-type: none"> Improving productivity to respond market demand better (W₂, O₁, O₃, O₅) Improving quality of human resource through formal and informal education (W₂, O₁) Providing top and consistent quality of product for costumers (W₅, O₁, O₂)
Threats (T)	Threat-Strength Strategy <ul style="list-style-type: none"> Improving ability to deal with variation of demand (volume flexibility) from business customers (S₂, S₅, T₁, T₂) Developing product and operation process (S₁, S₃, T₄) 	Threat-Weaknesses Strategy <ul style="list-style-type: none"> Creating operation process that emphasize efficiency cost with resource optimization and better management which will give benefit to company (W₄, T₂, T₃) Improving customization to deal with customer's demand (W₁, W₅, T₁, T₄) Finishing the quantity of the product that business customer order in accordance with promise date agreed by both parties (on time). (W₃, T₁, T₂)

Business Strategy

Business strategy would be used on improving GKSI Boyolali's competitive position on milk treatment industry. Their current business is milk treatment industry providing condensed milk production service for business customers. In corporate strategy formulation earlier, the writer suggests the company to develop their market. The company that initially just do contract manufacturing for brand owner could try to become supplier offering condensed milk to pastry, bread, beverage industry that need it as raw material. GKSI Boyolali milk treatment industry should focus their efforts by serving special needs of this strategic target more effectively than their competitors serves by uniqueness. They could satisfy customer with their fulfilling market requirement of them with providing quality product, service in terms of customization or order finishing time. The company will try hard to make loyalty to the business customers that consistently find, buy, and use service of GKSI Boyolali in creating condensed milk product. Therefore, operating as business-to-business (B2B), based on their current condition, the most suited business strategy for the company is Differentiation.

How the differentiation strategy that GKSI Boyolali developed will be influenced by the corporate strategy, which are stability and selective investment. Using TOWS strategy analyzed in the previous analysis, the writer could define attributes could be pursued to compete in their industry. Figure 4 show the relationship between differentiation as competitive strategy and the value attributes that company could build.

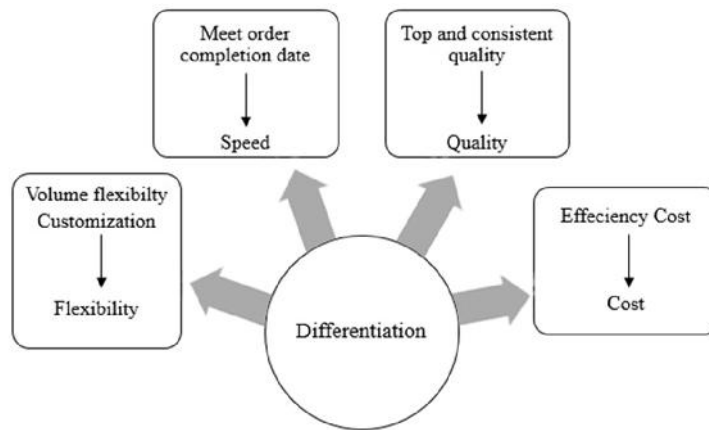


Figure 4 Relationship between Differentiation Strategy and Value Attributes

- Differentiation on quality means how GKSI Boyolali improves quality product that meet specification and maintain consistency of quality so that it could make the customers satisfy.
- Differentiation on speed means how GKSI Boyolali respect the time by finishing the quantity of the product that business customers order accordance to promise date agreed by both parties.
- Differentiation on flexibility means how the business could deal with variation of demand of volume or particular needs from business customers.
- Differentiation on cost means the business could emphasize efficiency cost with resource optimization and better management focusing on operation of low cost to become competitive but without sacrificing quality or other competitive value attributes

Operation Strategy

Performance Objectives

Based on value attributes using TOWS matrix analysis that formulate strategy to respond internal and external factors of the company, we can conclude from them what value attributes or competitive factors that could be developed to create competitive advantage in their position. Based on Slack and Lewis theory, they could be classified into categories of performance objectives (Table 4.9). Based on guidance from employees of GKSI Boyolali about SWOT (IFAS-EFAS), TOWS Matrix analysis, and differentiation as competitive strategy. The writer rate them in term of the priority that company should be developed to compete in the market. The performance objectives that GKSI Boyolali Milk Treatment Industry should priority the most are quality and speed (Table 5).

Table 5 Competitive Factor Classification of GKSI Boyolali

Performance Objectives	Competitive Factor Associated with Objective
Quality ***	Top and consistent quality
Speed ***	Meet order completion dates
Flexibility **	Volume flexibility
	Customization
Cost **	Efficiency Cost

Operation Strategy Matrix Analysis of GKSI Boyolali

Operation strategy matrix of GKSI Boyolali Milk Treatment Industry could be seen in Appendix 1 (Structural Decision) and Appendix 2 (Infrastructural Decision). On doing the operation strategy formulation on the matrix, the direction of stability and selective investment (corporate strategy) and differentiation strategy (business strategy) will influence on creating decision. Based on the importance and performance of organization, the strategy is divided into three levels: very critical, critical, and secondary. The very critical decision is the decision that management should priority first while critical and secondary decision become alternative strategy or could be done later (supportive). The very critical structural decisions for GKSI Boyolali are acquiring cooling technology for production process while for infrastructural decision are product and service development and improvement standardization on production.

Discussion

Conclusion

As a company that is currently positioned in Quadrant 2, which is "stability", the industry is growing but GKSI Boyolali are unable to compete effectively. Based on GE Matrix result, the company should focus on business that they specialize. They should concentrate to invest where the profitability is good and risk are relatively low. Business strategy that suit the most for their current condition and capability is differentiation. They should focus their efforts by serving special needs of this strategic target more effectively than their competitors serves by uniqueness. The company need to focus to improve competitive priorities that is considered important for themselves and customers, which are quality and speed. To pursue that, there are strategy that the company should priority first.

For structural decision, the first strategy is acquiring cooling technology for production process. Adding supporting technology could help to fasten production on cooling process after pasteurization that initially need 5 hours to become 3 hours, Then, it could enhance actual capacity production near to 40 tons of fresh milk per day compared to earlier about 24 tons. This strategy could help GKSI Boyolali to complete order demanded by business customers on time lead to strong relationship between both parties.

For infrastructural decision, the first strategy is product and service development. The decreasing of sales in last year due to saturated product and economic condition must be responded by the company through product and service development strategy. Product and service development could help company explore more about development of their kind of product. Organization should be better identifying new ideas that have potential and developing that into attractive product. GKS Boyolali milk treatment industry could focus on improving their specialization in condensed milk production.

For infrastructural decision, the second strategy is improvement standardization on production process. Standardization become vital in creating a sustaining quality of production process. GKS Boyolali should do improvement to their standardization implementation to create effective quality management system that ensure consistent achievement throughout its production process. The company concern with standardization and quality would convince the potential costumer that they attempt to have continual improvement process in place for the specific purpose of enhancing customer satisfaction.

Recommendation

After deciding those strategies, it need to be implemented and executed into action and implementation plan in order to achieve performance desired by the company. For structural decision, the action plan that the writer suggest here is installing tubular heat exchanger on pipe after pasteurization process. Tubular heat exchanger is technology built using principle heating transfer between liquids. According to Mr Widiatmoko, in dairy industry, it will help to cooling down temperature of processing milk after pasteurization process from 92°C to become 45°C. This technology will help further cooling process technology, which is scraped surface cooler after pasteurization cool down the processing milk easier to become 35°C in one cycle process. So the processing milk do not have to do recycling process that make longer time Then, it also will help vacuum technology to reach temperature of 28°C. That temperature is important for crystallization process to make lactose adding dissolved completely with processing milk. Hopefully, it could help to operation process work optimally. Then, it could fasten production process and minimize the cost of fuel and electricity. From this action plan, hopefully the operation process could be shorter than the past and lead to maintain quality and help to the order completion date could be realized on time by the company.

For infrastructural decision, the first action plan that the writer proposes here is doing product and service development process regarding improving customization level. The company run as contract manufacturer for condensed milk product. They should improve the variety of customization to deal with need and preference of business customers better. They could reformulate it such as how to make it more delicious, what new flavor that could be preferable for product, what preferable size it should be, and what kind of ingredients that could be used to make the product better. Product planning required several sample of raw materials that will be used for research (trial and error) of new variation of product. If the facilities at the plant do not sufficient, perhaps they need to rent it or use other's facilities in other places. The idea for product and service development, could gathered from many sources: both internal (basic R&D, opportunities identified by marketing, operations, suggesting change to an existing product, suggestion boxes) and external (customer's suggestion, focus group discussion, competitor's product, government regulation).

For infrastructural decision, the second action plan is there should be good communication between quality control and production team on improving standard quality such as evaluation or better implementation of HACCP (hazard analysis critical control point) system. It needs better standard controls on production processes especially those considered critical or vital process. The HACCP System will ensure safety food that was very essential in dairy industry. The production process considered critical to the production process are fresh milk reception, pasteurization, mixing, homogenization, and vacuum process. Every process could meet quality control standard that company expected. It will help "released product" status is released soon. Then, the company could provide the finished product on

time), before business customer comes to distributed it to the market. Standardization for quality production process require minimum cost. It will be more focus on analytical data of quality control of production process. There should be also ability of employee to analyze it and could operate the operation process properly. Cooperation and communication between parties involved should be better to achieve result that the company desired.

References

- Ardia, Hedi. (2015), *Peningkatan Konsumsi Susu*, June. Retrieved on September 26th 2015, from <http://bandung.bisnis.com/read/20150602/5/534873/peningkatan-konsumsi-susu-non-sapi-tak-bisa-dimengerti>.
- Beckman, Sara Lynn & Rosenfield, Donald B., (2008), *Operations strategy: competing in the 21st century*, McGraw-Hill/Irwin, Boston
- Bossche, Patrick Van den.et.al. (2014), *The Road to Contract Manufacturing Success*, June. Retrieved on May 26th, 2015, from <https://www.atkearney.com/documents/10192/4531776/SCMR.Contract.Mfging.pdf/daa21120-1a9f-4b5a-a27a-0867a4071444>
- Finh, Byron J. (2008), *Operation Now: Supply Chain Profitability and Performance*. 3rd ed. Mc Graw-Hill, New York.
- Hayes, Robert, et.al. (2005), *Operation, Strategy, and Technology Pursuing the Competitive Edge*, John Wiley & Sons, US.
- Indra. (2015), *Tingkat Konsumsi Susu di Indonesia Masih Rendah*. Retrieved on September 30th, 2015, from <http://www.imq21.com/news/read/322805/20150918/104017/Tingkat-Konsumsi-Susu-di-Indonesia-Masih-Rendah.html>
- Juricius, Ovidijus. (2014), *GE McKinsey Matrix*, August. Retrieved on June 28th 2015, from <http://www.strategicmanagementinsight.com/tools/ge-mckinsey-matrix.html>
- Lövng, Malin. (2014), *Manufacturing strategy formulation in small and medium-sized enterprises*, ISBN 978-91-7597-008-0
- Maluctures. (2010), *Grand Strategy Matrix*. Retrieved on June 28th 2015, from <http://mba-lectures.com/management/strategic-management/1129/grand-strategy-matrix.html>
- Nrsolution. (n.d.), *what is operation strategy*. Retrieved on June 28th 2015, from <http://www.nrlsolutions.com/node/24>
- PCB. (2014), *Difference between HACCP and ISO 22000*, October 12th. Retrieved on October 2nd 2015, from http://www.slideshare.net/PECBCERTIFICATION/1-difference-between-haccp-and-iso-22000?qid=1df716f5-3de4-40c1-a477-45140d379d6b&v=default&b=&from_search=1
- Rheoheat. (2015), *Principles of a tubular heat exchanger* Retrieved on January 15th 2016, from http://www.rheoheat.se/b15_heat.html
- Slack, Nigel and Michael Lewis. (2008). *Operation Strategy*, Prenitice Hall, London.
- Suistyo, Rafiq. (2011), *Operations Strategy Formulation: Shifting from Grasberg Open-Pit Surface Mining to Underground Mining*, *Journal of Business Studies*, ISSN 2089-6271, Vol. 4 No 01.
- Viplvkambli. (n.d.), *GE/McKinsey Matrix*, Retrieved on June 28th 2015, from <http://www.viplvkambli.com/notes/pdfs/gemckinsey.pdf>
- Waters, Donald. (2006), *Operations Strategy*, Thomson Learning, London, UK.
- Widiatmoko. (2015), Personal Interview by Reyhan Zachary, Boyolali: September 15th 2015.
- Wheelen Thomas L., Hunger J. David. (2011), *Strategic Management and Business Policy*, Pearson, New Jersey.
- Yusuf, Shahnaz. (2015), *Potensi Pasar Industri Susu Masih Besar*, September 4th (Retrieved on Nov 12, 2015, from <http://industri.bisnis.com/read/20150908/257/470498/potensi-pasar-industri-susu-masih-besar>)