

DEVELOPMENT OF MILK PROCESSING BUSINESS BASED ON BLUE ECONOMY IN MUNDU KLATEN

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Abstract: The dairy business of Ngudi Mulyo's Women's Livestock Group (KWT) in Mundu Village has the potential of dairy cow's milk resources, but the business is not developing well. Thus, the objectives of this study are: (1) implementation of the Blue Economy principle in the KWT dairy business; (2) the interrelationships between economic, social, and environmental elements of the KWT dairy business; (3) Analyzing the form of the KWT milk processing business strategy. This study uses a mixed methods approach, and uses primary and secondary data, and uses NVIVO software to analyze content and Stata as a quantitative data processing tool. The results of the analysis show that the processing business of Ngudi Mulyo's KWT cow's milk has absorbed labor, production waste and resources can still be utilized. An environmentally friendly business development strategy, product marketing development and improvement and partner cooperation are needed for business continuity.

Keywords: KWT, blue economy, linkage, development

INTRODUCTION

Data from the Central Statistics Agency (BPS) of Klaten Regency shows that the largest contributor to Gross Regional Domestic Product (GRDP) according to business field, is the manufacturing industry sector, in 2019 reaching 37.39% (Badan Pusat Statistik Kabupaten Klaten, 2020). The population of dairy cattle in Klaten Regency in 2018 reached 6.28 thousand heads, while in 2019 it reached 6.44 thousand heads (Badan Pusat Statistik Provinsi Jawa Tengah, 2020). Dusun Dungus, Mundu Village, Tulung District, Klaten Regency has built a dairy cow milk processing business managed by the Ngudi Mulyo Livestock Women's Group (KWT), whose members are women who process dairy cow's milk from the surrounding community's dairy farm into natural milk soap, eco-friendly, milk

candy and milk crackers. Thus, Mundu Village has the potential to develop a dairy cow's milk processing business which will create new jobs for many people with the right business development strategy.

The Blue Economy is the key to the right strategy in the economic development of a region. Where the Blue Economy always imitates the workings of the natural ecological system, namely by working as efficiently as possible and as much as possible to channel nutrients and energy without producing waste, or zero waste to meet the basic needs of the contributors of a system, besides that the blue economy also provides new innovations systematically, sustainable and provide many job opportunities for the poor (Pauli, 2017). However, the intestine processing business of KWT Ngudi Mulyo is

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not familiar with and has not fully implemented the Blue Economy system, so there are still many processed products that are not well developed. Therefore, it is necessary to analyze the implementation of the blue economy principles of KWT Ngudi Mulyo's business as follows:

Zero waste, how to treat dairy cow's milk production waste so it doesn't pollute the environment. Start with what we have, how is the dairy milk processing business of KWT Ngudi Mulyo able to explore the potentials of the resources owned by Mundu Village to be more useful, not only limited to fresh milk products for dairy cows. Create more value 1000 innovations, how the dairy business of KWT Ngudi Mulyo can develop products with various innovations that adapt from nature as efficiently as possible. Create more job, the dairy business of KWT Ngudi Mulyo's dairy cow could potentially reduce unemployment and poverty rates in Klaten. The Klaten Regency Open Unemployment Rate (TPT) in 2020 reached 5.46% (Badan Pusat Statistik Provinsi Jawa Tengah, 2021). And because the Blue Economy imitates a sustainable ecosystem system, businesses that apply the blue economy principles must see the interrelationships between economic, social and environmental elements are interrelated with each other.

Since the Covid-19 virus pandemic emerged in March 2020, it has had a negative impact on the KWT Ngudi Mulyo milk processing business, where this business has not been pioneered for a long time and because the product is not yet well known or does not have a name in the eyes of the public and the opportunity for product demand is becoming increasingly unreliable certain. Therefore, this phenomenon is the basis for conducting this research, so it is

necessary to design a strategy for developing a milk processing business for KWT Ngudi Mulyo dairy cows in expanding the scale of business and reducing the impact due to Covid-19.

Economic development in Bangladesh explains that economic activities that are managed by focusing on the economy alone can lead to a disaster that will hamper the economy itself (Sarker et al., 2018). And management of integrated agricultural production, by utilizing mixed resources and businesses, namely environmentally profitable agriculture and animal husbandry (Walters et al., 2016). Regulating the production process by managing waste by utilizing it as a whole so that nothing is wasted will have an impact on the local economy, social, and environment (Svensson and Wagner, 2012).

Blue Economy

The Blue Economy applies the logic of eco-economy, namely eco-economy that always works towards a higher level of efficiency to flow nutrients and energy without waste to meet the basic needs of all contributors in a system, the following are some of the principles of the Blue Economy: (1) zero waste, (2) start with what we have, (3) create more value, and (4) create more jobs (Pauli, 2017).

Sustainable Development

The concept of sustainable development basically rests on maintaining a balance on three conceptual pillars, these pillars are economic sustainability, social sustainability, and environmental sustainability (Mensah, 2019). Articulation or combination of elements of sustainable development in order to achieve sustainable development goals as follows: (a) Materials: utilize resources as efficiently as possible without com-

promising the need for resources in the future. (b) Energy: utilizing energy as efficiently as possible or empowering energy so that energy can be used sustainably. (c) Environment: considering the impact of environmental sustainability. (d) Legislation: Public awareness and the role of government in regulations to maintain environmental sustainability are very necessary. (e) Society: health, education, housing, employment, equity, knowledge, intellectual property, and happiness. (f) Economics: considering the costs incurred and the impact of benefits from economic activities (Ashby, 2022).

Community Economic Empowerment

Community empowerment is an effort to change a very low standard of living of the community to a better economic, socio-cultural, and political condition (Suharto, 2014).

The process of community economic empowerment is a series of community empowerment in increasing the ability and independence of the community to improve a better standard of living, following the community empowerment process (Mardikanto and Soebianto, 2013): (a) identifying and considering regional potentials, problems, and opportunities; (b) develop a group activity plan based on the results of the study; (b) implement group activity plans; (c) directions for community empowerment in the form of mentoring.

Multiplier Effect

The Multiplier Effect can be caused by the fiscal policy of the government, the purchase of goods from a government dollar in a region or country will increase the demand for many other company products, because every dollar issued by the government can increase the aggregate

demand for goods and services by more than one dollar. This is what is called the multiplier effect or the multiplier effect (Mankiw, 2018).

METHOD

This study uses a mixed method approach, namely qualitative and quantitative methods, the object of research is carried out in a dairy business of the Ngudi Mulyo Cattle Women's Group in Dukuh Dungus, Mundu Village, Tulung District, Klaten Regency, Central Java Province, this group provides added value by processing dairy cow's milk into innovative products. The types and sources of data used in this study are primary and secondary data. Primary data is data whose data collection can be done directly in the field, secondary data is data obtained indirectly in the field, but with sources that have been made by other people (Nugrahani and Hum, 2014).

Informal selection with purposive sampling technique is a deliberate selection of an informant because of the quality or characteristics that the informant can provide (Afrizal, 2014). Thus the informants taken in this study were, 4 members of KWT Ngudi Mulyo who were directly involved in the business, and members of LPTP who accompanied KWT activities. The appropriate qualitative data collection techniques needed to achieve the objectives of this study are as follows (Yusuf, 2016): (a) interviews: semi-structured interviews or in-depth interviews, (b) observation, and (c) documentation. In a good qualitative study, then the use of triangulation of various methods and data sources to increase the validity of research findings this study uses triangulation of data sources and triangulation of methods (Denzin and Lincoln, 2017).

The data analysis technique using qualitative analysis has three stages, namely as follows (Saldana et al., 2014): (a) condensation of data, (b) presentation of data using narrative text, and (c) withdrawal of conclusions and verification. Content analysis is an analytical technique by interpreting information data in the form of text, images, sounds from recordings and videos (Krippendorff, 2018).

Content analysis is used to analyse: (a) implementation of the Blue Economy principles as follows; (b) interrelationships between economic, social, and environmental elements; (c) development strategy with BMC (Business Model Canvas) as follows (Clark et al., 2012): value proposition, customer segments, key activities, key resources, channels, customer relationship, key partners, cost structure, revenue streams. NVIVO is software that is used to assist in analyzing data with content analysis techniques or content analysis with the following stages (Bazeley & Jackson, 2013): (a) data input, (b) coding, (c) queries, and (d) visualization of findings.

This analysis is used to measure the relationship between milk resources, profit, workers in the production of milk crackers, milk candy, milk soap, KWT Ngudi Mulyo. If the correlation value is (+) then there is a unidirectional relationship but if the correlation is (-) then the correlation is in the opposite direction, the correlation is said to be strong if it is close to 1, and if the correlation value is 0 then there is no relationship between the two (Roflin and Zulvia, 2021).

Correlation is processed using Stata software in the following way (Hamilton, 2012): (1) enter data into the data editor; (2) summarize command to see the observed value, mean, standard deviation, minimum, and maximum; (3) never “Pwcorr variable names, sig”, to perform correlation.

RESULTS

Blue Economy Implementation

The Blue Economy Principle is zero waste, start with what we have, create more value, cre-

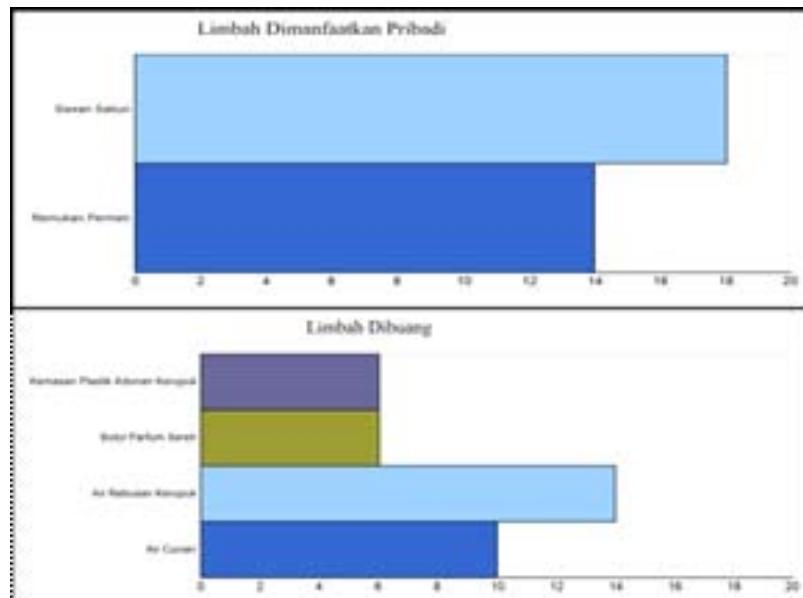


Figure 1 Waste Treatment Coding Diagram

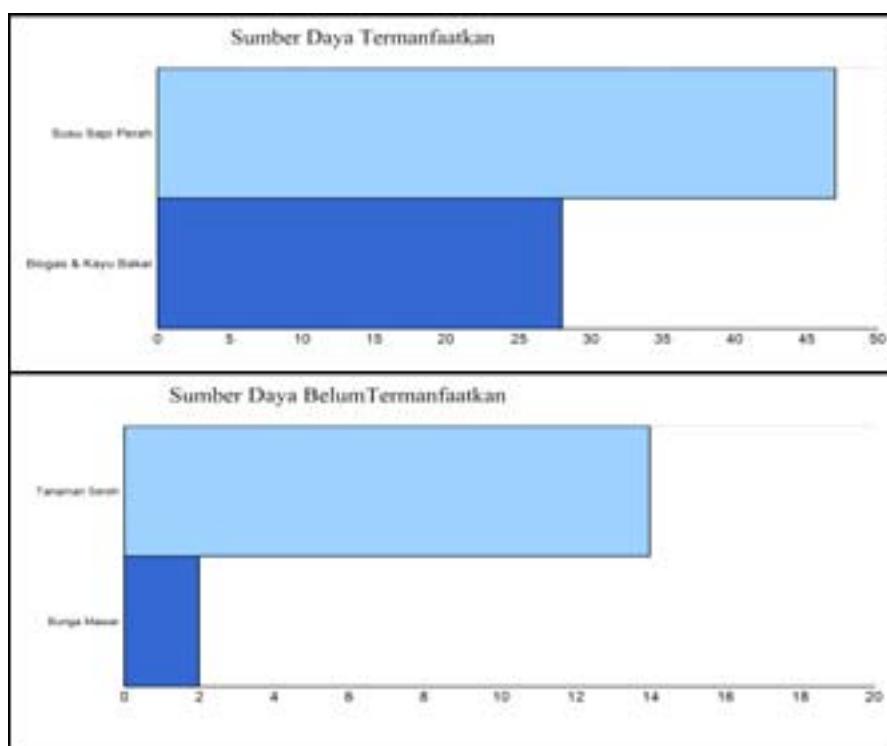


Figure 2 Coding Diagram of Natural Resources

ate more jobs in the diagram below, explaining the coding of interview transcripts, and observation data. Where Y contains code or word labeling that represents research data to answer the formulation of research problems in the dairy business of KWT Ngudi Mulyo dairy cows. And the X axis shows the number of sentences that lead to the code or word label that has been set processed with NVIVO software.

The application of the Zero Waste Blue Economy principle: in the production process of processing dairy products, dairy products have resulted in the waste of crushed candy being given to the members' children and soap combs from soap making for personal use by the group. The soap comb waste should be reprocessed into natural liquid soap which will later increase income for women's groups. The remaining bar soap can be used as raw material for liquid soap (Wathon, 2021).

Untreated waste: cracker dough packaging can be overcome by replacing plastic packaging with baking sheets. Milk crackers are processed by steaming the dough into a baking dish (Purnawati and Nurhajati, 2021). Cracker boiled water waste and washing water can be treated with constructed wetlands (CWs). CWs is a waste treatment process by imitating natural systems in improving water quality, using several components, namely water, filter media such as gravel and sand, aquatic plants, fallen leaves or plant stems, and various microorganisms (Stefanakis, 2018). Meanwhile, the waste of purchased citronella oil perfume bottles can be handled using natural citronella oil made from the lemongrass plant by utilizing the lemongrass plant in Mundu Village.

The application of the principle of start with what we have KWT has processed the abundant milk resources and biogas and twigs

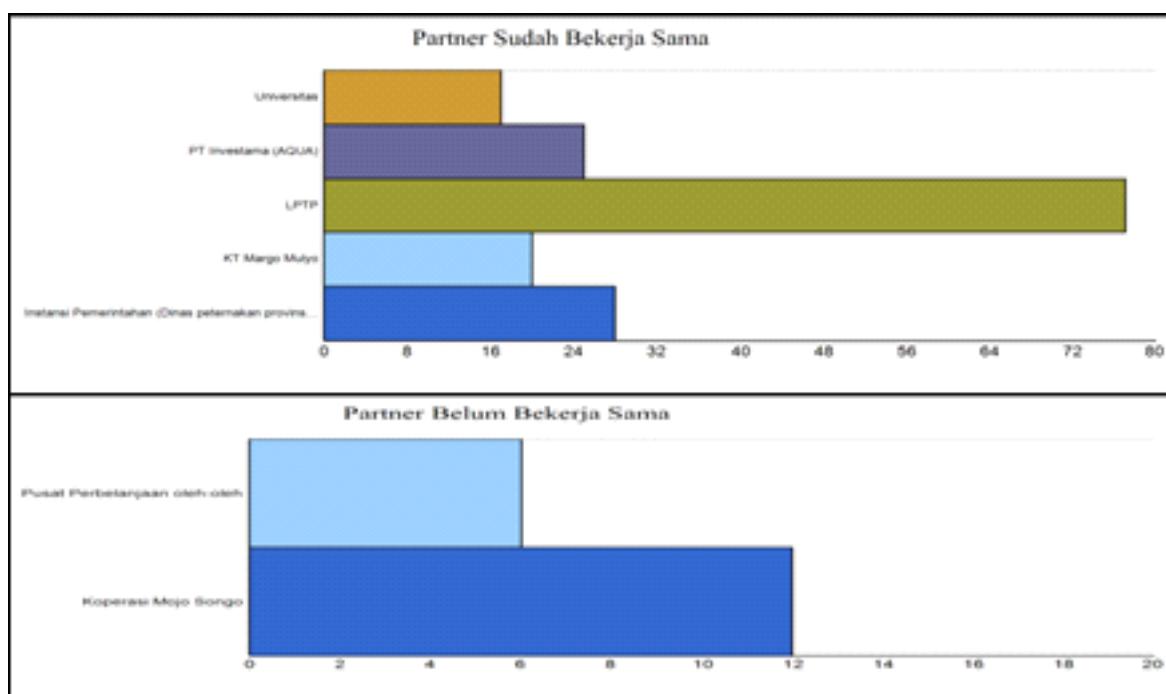


Figure 3 Coding Partner Graph

available for processing dairy products. And quite a lot of lemongrass plants and conservation roses in Gumuk Boyolali, partners of LPTP, should be able to become natural fragrances for KWT milk soap.

Furthermore, the principle of start with what we have with partners as a resource where KWT has collaborated with KT Margo Mulyo, a milk supplier, Raden Mas Said State Islamic University Surakarta, LPTP, PT Tirta Investama (AQUA) and government agencies (Provincial Animal Husbandry Service, Klaten Animal Husbandry Service, Klaten Regency Perindagkop Service, Lurah) have so far contributed to providing assistance to KWT in the form of production and training facilities. The partner that does not yet have a partnership is the Mojo Songo Cooperative, a souvenir center in Jatinom Market, this partner should have potential in marketing processed KWT cow's milk products.

Application of the principle of create more business value in the dairy business of KWT Ngudi Mulyo by adding value to milk by producing dairy cow's milk that is privately owned by each member of KWT Ngudi Mulyo into various preparations including milk crackers, milk soap, and milk candy, pudding milk, pasteurized milk, milk ice cream, liquid milk soap. However, the only products that have been sold are milk crackers, milk candy, and milk soap. Meanwhile, milk pudding, pasteurized milk, milk ice cream, and liquid milk soap have not yet been marketed to the general public. Candy containing 20 candies is sold at Rp 10,000 per pack, crackers are sold at Rp 6,000.00/pack, while milk soap products are sold at Rp 6,000.00/bar. And pasteurized milk, milk ice cream, milk pudding, and liquid soap should be sold to the wider community by increasing the shelf life of the product or special delivery and product licensing to facilitate product marketing so that

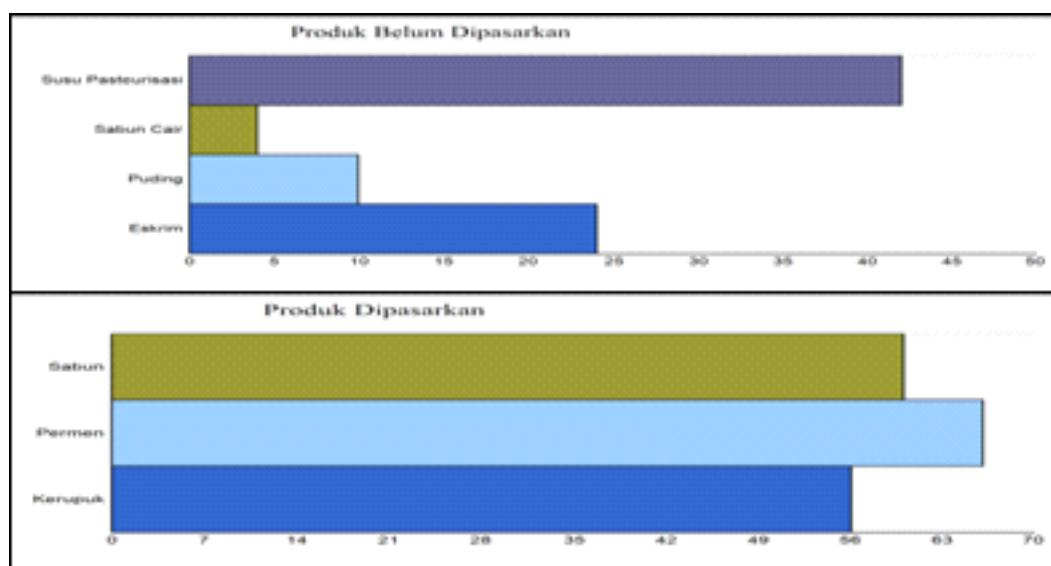


Figure 4 Coding Diagram of Cow's Milk Processed Products

it becomes added value for the community in increasing income for women's groups.

The implementation of the Blue Economy principle creates more jobs in the Ngudi Mulyo KWT milk processing business, where the Ngudi Mulyo KWT dairy processing business has absorbed workers on a group scale consisting of 14 members, of which 14 members consist of mothers from the coverage area. Mundu Vil-

lage RT3 RW2 Salaman there are 4 people, Srikadang there are 4 people, the rest Dungus 6 people. Of these 14 members, the lowest education is Elementary School to the highest education is Vocational High School, and from the 30s-60s age group, the 30s are Mba Listiani and Ms. Handayani, among the 60s are Mbah Marmo, the oldest group member and others around 35 years and over.

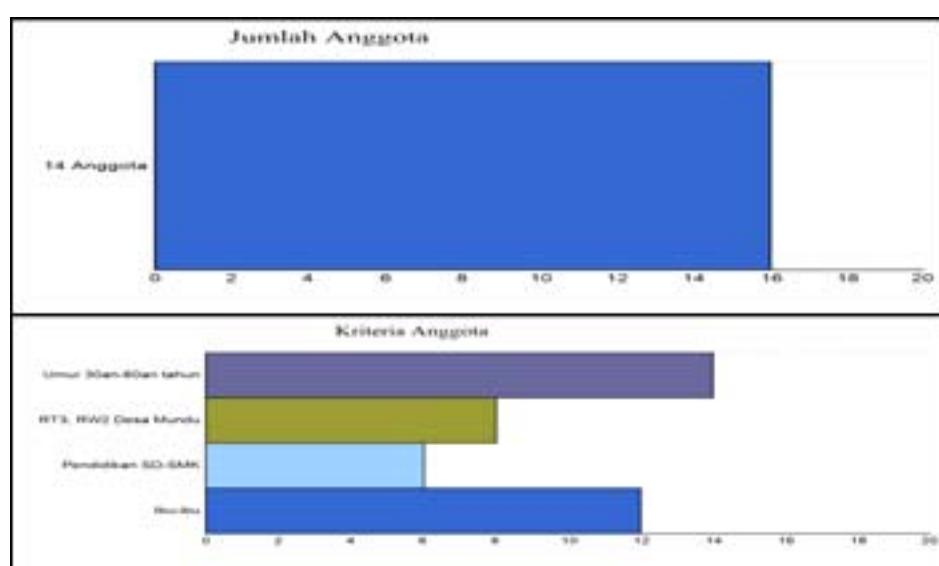


Figure 5 Coding Diagram of Number of Members and Member Criteria

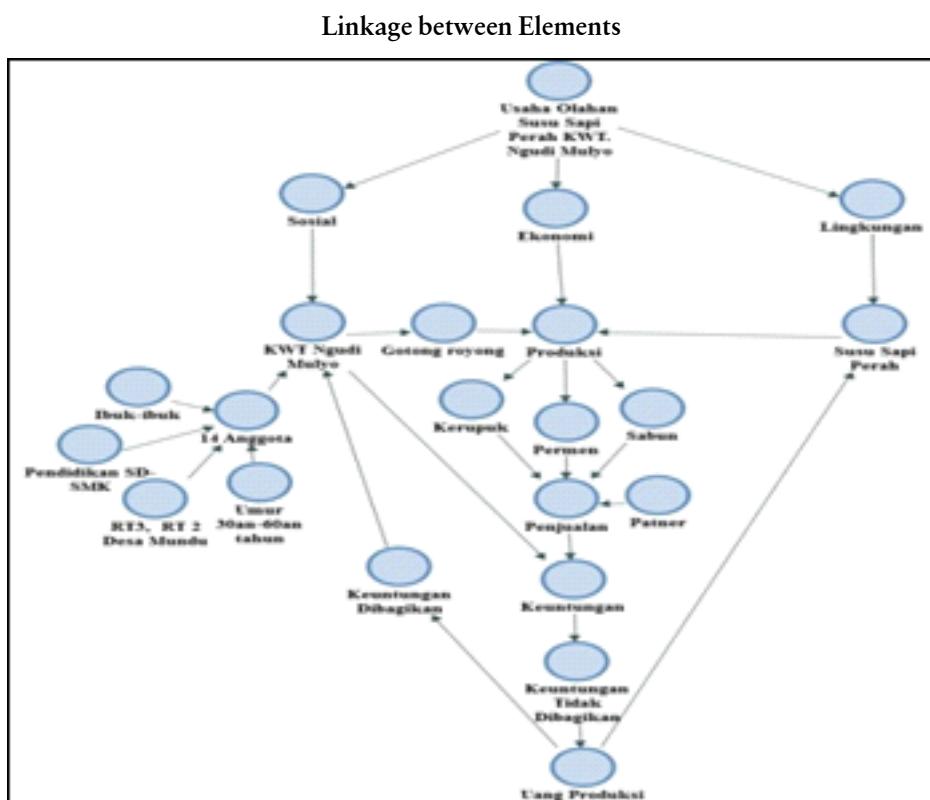


Figure 6 Concept Map of Coding Elements of Linkage

The relationship between economic, social, and environmental elements of the dairy milk processing business of KWT Ngudi Mulyo is as follows:

In terms of environmental elements, milk resources in Mundu Village are abundant. KWT Ngudi Mulyo processes milk resources into dairy products, namely milk crackers, milk candy, and environmentally friendly milk soap without preservatives. The relationship between economic elements is seen from the sale of dairy products, namely as follows: 1L of dairy cow's milk can be made into 3 packs of candy with 20 candies, sold at a price of Rp 10,000 per pack. 1 L of dairy cow's milk can generate income of $3 \times \text{Rp } 10,000.00 = \text{Rp } 30,000.00$ from candy products. Cracker products for 1L of dairy cow's milk can be made into 6 packs of crackers weighing + - 600 grams and are sold at

a price of RP6,000/package, 1L of dairy cow's milk can generate an income of $6 \times \text{Rp } 6,000.00 = \text{Rp } 36,000.00$ from cracker sales. While the milk soap product for 1 L of dairy cow's milk can be 50 bars of soap weighing 60 grams, sold at a price of Rp 6,000.00 / stick of 1L of dairy cow's milk can generate an income of $50 \times 6000 = \text{Rp } 300,000.00$ from the sale of soap. 1L of dairy cow's milk for production is purchased at a price of Rp 6,000.00 from the farmer directly. Production is carried out by 14 members with a production system based on orders.

Seeing the relationship between economic, social, and environmental elements with the correlation test;

If the significance value is > 0.05 then reject H_0 accept H_a , there is a relationship between variables

Table 1 Correlation of Milk, Profit, Milk Cracker Product Workers

	Correlation		
	Milk	Profit	Labor
Milk	1.0000		
Profit	1.0000	1.0000	
	0.0000		
labor	0.8458	0.8457	1.0000
	0.0020	0.0020	

If the significance value is < 0.05 , then accept H_0 rejects H_a there is no relationship between variables.

H_0 : there is no relationship between the variables of labor, profit, and milk on cracker products

H_a : there is a relationship between worker, profit, and milk variables on cracker products

Seen from Table 1 the correlation value of milk, profit and worker variables on cracker products, all variables have a strong correlation where the correlation value is > 0.05 , and the significance value is < 0.05 . Therefore, rejecting H_0 accept H_a where there is a relationship between the variables of labor, profit, and milk in cracker products. Where the correlation results show the number + then the direction of the relationship between variables is unidirectional if there is an increase in one variable then the other variables also increase, if there is a decrease in one variable then there is a decrease in the other variables.

H_0 : there is no relationship between worker, profit, and milk variables on candy products

H_a : there is a relationship between worker, profit, and milk variables on candy products

Seen from Table 2 the correlation value of milk, profit and worker variables on candy products all variables have a strong correlation where the correlation value is > 0.05 , and the significance value is < 0.05 . Therefore, rejecting H_0 accept H_a where there is a relationship between the variables of labor, profit, and milk in cracker products. And the direction of the relationship is unidirectional because the correlation value is +, if one variable goes up then the other variables also go up, if one variable goes down then the other variables also go down.

H_0 : there is no relationship between the variables of labor, profit, and milk on soap products.

H_a : there is a relationship between the variables of labor, profit, and milk on soap products.

Table 2 Correlation of Milk, Profit, and Milk Candy Product Workers

	Correlation		
	Susu	Profit	Labor
Milk	1.0000		
Profit	1.0000	1.0000	
	0.0000		
Labor	0.9457	0.9457	1.0000
	0.0000	0.0000	

Tabel 3 Korelasi Susu, Profit, dan Pekerja Produk Sabun Susu

	Correlation		
	Milk	Profit	labor
Milk	1.0000		
Profit	1.0000	1.0000	
	0.0000		
Labor	0.8822	0.8822	1.0000
	0.0001		0.0001

Seen from Table 3 the correlation value of milk, profit and worker variables on soap products all variables have a strong correlation where the correlation value is > 0.05 , and the significance value is < 0.05 . Where the correlation value + the direction of the relationship between variables is unidirectional, if there is an increase in the number of one variable then the other variables also increase and if one variable decreases, the other variables also decrease.

The processing of milk resources by KWT Ngudi Mulyo has increased income for KWT members, but the profits obtained are not shared but are used again to run the business because sales are still low. only once was it done to increase the money for the purchase of basic necessities which would later be distributed in the social gathering for the women of KWT Ngudi Mulyo. The linkage in terms of social elements of the dairy milk processing business of KWT Ngudi Mulyo has absorbed a workforce of 14 members.

The value proposition model, by applying the blue economy principle creates more value as follows: (1) Dairy products consist of various variants, namely milk crackers, milk candy, milk bar soap, liquid milk soap, pudding, ice cream, pasteurized milk. (2) No chemicals, products without preservatives and chemicals are all natural and environmentally friendly. (3) Products already have PIRT and BPOM, it is hoped

that dairy products processed by dairy cows have been tested.

The customer segment model shows the main target for the dairy business of KWT Ngudi Mulyo's dairy cows. The business model canvas for the dairy business of KWT Ngudi Mulyo by incorporating a wider market segment and higher product demand such as (1) commuters and tourists to buy products as home supplies or souvenirs; (2) tourists where the nearest souvenir shop is Jatinom Market; (3) Individual buyers; (4) Organizers of parties or seminars where cow's milk products can be used as souvenirs or souvenirs and also as treats for guests; (5) Bulk Store, a store with a zero waste concept selling environmentally friendly products and Bulk Stores will be interested in KWT Ngudi Mulyo's environmentally friendly milk soap product.

The customer relationship model in this business shows the business mechanism of Ngudi Mulyo's KWT cow's milk processing business in maintaining good relations with consumers. The strategy developed has an important role for the dairy business of KWT Ngudi Mulyo to retain customers, acquire new customers and increase sales demand, Improvements to new business models as follows: (1) Special personal assistance, with special service officers to respond to online sales transactions and special assistance services for the delivery of perishable

Blue Economy Based Business Development Strategy

Business Model Canvas				
Key partners	Key activities	Value Proposition	Customer Relations	Customer Segment
1. Government agencies (Department of trade and fisheries, Department of Animal Husbandry Klaten, Department of Industry and Trade) 2. LFTP-AQUA 3. Mojo Songo Cooperative 4. University	Key activities 1. Environmentally friendly production 2. Development and marketing 3. Establish a partnership Key resource 1. Dairy farming 2. Cultivation of lemon grass 3. Cultivation of roses 4. Ginger cultivation 5. People and Finance 6. Marketing facilities 7. Marketing facilities	1. Various variants (milk crackers, milk candy, milk bar soap, liquid milk soap, pudding, ice cream, pasteurized milk) 2. No chemicals 3. The product already has PIRT and BPOM	1. 1. Special personal assistance 2. 2. Shopping outlets (self-service) Channel 1. Minimarkets, cooperatives, souvenir shopping centers, bulk stores, workshops or seminars. 2. Social media, 3. Online Store	1. Commuters and tourists 2. Travelers 3. Individual buyers 4. Organizing a party or seminar event 5. Bulk Store
Cost structure			Revenue streams	
1. The cost of raw materials for fresh cow's milk. 2. Cost of auxiliary materials: Milk crackers (trigu flour, starch, seasoning); Milk soap (cooking oil, coconut oil, lemongrass, rose, caustic soda); Milk candy (sugar, butter, ginger). 3. Fuel costs. 4. The cost of electricity, water and business permits. 5. Promotional Fees. 6. Freight costs. 7. Salary of labor. 8. The cost of purchasing and maintaining equipment. 9. Packaging costs.			1. Sales of milk crackers 2. Milk candy sales 3. Milk soap sales 4. Sales of milk pudding 5. Sales of milk ice cream 6. Sales of pasteurized milk 7. Sales of liquid soap. 8. Membership fees. 9. Assistance from government agency programs and Suwata	

Figure 4 BMC Dairy Cow Milk Processing Business KWT Ngudi Mulyo

dairy products. (2) Shopping outlets (self-service) provide all facilities so that they can help customers independently. This model will make it easier for KWT to market dairy products during the Covid-19 pandemic.

Channel model, this channel model will help KWT to market products widely to various regions during the Covid-19 virus pandemic by applying the blue economy principle, start with

what we have, namely utilizing existing facilities in Mundu Village and technological advances. This model can sell through: (1) minimarket, Mojo Songo Cooperative, souvenir shopping center in Jatinom, Bulk Store, Workshop or seminar, nearest Bulk Store in Klaten Kakka.eco and Malathi Bulkstore; (2) social media; (3) online shop.

The main activity model, by applying the blue economy principle is zero waste, start with what we have, create more value, namely (1) an environmentally friendly production system as follows: (a) printing crackers on a baking sheet so as not to produce plastic packaging waste, (b) using natural perfume, (c) processing comb waste into liquid soap, and (c) treating cracker boiled water waste along with equipment washing water waste using an artificial wetland system.

Furthermore, (2) product development by increasing the product's power period; (3) broader marketing and special product delivery and marketing through social media; (4) cooperation with various partners to obtain various competencies in product development and facilitate the required resources with various partnerships.

The main resource model, by applying the blue economy principle, start with what we have, utilizing existing resources, namely: (1) cultivation of dairy cows, (2) cultivation of lemongrass plants for natural soap fragrance, (3) cultivation of roses, (4) cultivation of ginger as a natural flavoring candy, (5) human resources and finance are important assets in developing added value from the value of the product to be produced, and (6) marketing facilities.

The partnership model, by applying the blue economy principle start with what we have as follows: (1) government agencies (Trade and Fisheries Service, Klaten Livestock Service, Perindagkop Service); (2) LPTP-AQUA; (3) Mojo Songo Cooperative; (4) university college tall. This partnership model will strengthen KWT Ngudi Mulyo's dairy business in running a business during the Covid-19 virus pandemic, where this model will help KWT in product development and wider marketing.

The income stream model, from the sale of milk crackers, milk candy, milk soap, milk pudding, milk ice cream, pasteurized milk, and liquid soap, the income stream through membership fees who are members of the Ngudi Mulyo KWT, and assistance from government and private agencies programs (Department of Trade and Fisheries, Department of Livestock Klaten, Department of Industry and Cooperatives) and LPTP-AQUA.

The cost structure model explains all expenses for the operational activities of the KWT Ngudi Mulyo dairy business model. The cost structure used is as follows: (a) the cost of raw materials for fresh cow's milk; (b) cost of auxiliary materials: milk crackers (terigu flour, starch, seasonings); milk soap (cooking oil, coconut oil, lemongrass, rose, caustic soda); milk candy (sugar, butter, ginger); (c) fuel costs; (d) cost of electricity, water and business license; (e) promotional fees; (f) transportation costs; (g) salary of labor; (h) equipment purchase and maintenance costs; (i) packaging costs.

DISCUSSION

From the results of the discussion of the research that has been carried out, it can be concluded as follows:

Implementation of the Blue Economy principle in Ngudi Mulyo's KWT milk processing business, the principle of zero waste. Soap comb waste should be able to be processed into liquid soap, cracker boiled water waste can be processed into fertilizer or treated with washing water waste with a wetland system. The process of making crackers from plastic molds to baking pans, the principle of starting with what we have lemongrass plants and rose resources that can be used as soap scents and

human resources such as partners can work together in business development and product marketing. The principle of create more value, women's groups have produced dairy cow's milk into crackers, candy and soap so as to increase income for women's groups. The principle of create more jobs, the dairy cow's milk processing business has absorbed a workforce of 14 members.

The relationship between environmental, economic and social elements has a strong correlation and a positive direction with tabulations of month, milk, profit, workers (milk reflects environmental resources, profit reflects economic elements, and workers reflects social elements). Where the processing of abundant milk resources in Mundu Village into dairy products has provided profits to KWT mothers and provided jobs for KWT mothers. Although the profits are still used to turn the business again because sales are still small. Thus the processing of milk resources into dairy products has a selling value which is an opportunity to increase income for the community and has the opportunity to create jobs for the community and reduce the impact of the Covid-19 pandemic.

The strategy for developing the milk processing business of KWT Ngudi Mulyo based on the Blue Economy is as follows:

Applying the principle of zero waste, start with what we have, and create more value KWT Ngudi Mulyo must replace the production system with an environmentally friendly production system, namely: (a) processing soap

comb waste into liquid soap; (b) managing liquid waste from washing equipment and boiled crackers by artificial wetland system; (c) replacing plastic cracker molds with baking sheets; (d) replacing the aroma of milk soap with homemade scents of lemongrass and roses.

Applying the principle of start with what we have and create more value to facilitate marketing during the Covid-19 virus pandemic, KWT Ngudi Mulyo must carry out product development and wider marketing as follows: (a) increase product lifespan or deliver products specifically for products which are not durable; (b) conduct product trials to obtain a soap BPOM permit; (c) marketing to souvenir shopping centers, Mojo Songo Cooperative, the nearest Bluk Store, and social media and online stores; (d) Establish partnerships with various parties: (1) government agencies (Department of Trade and Fisheries, Department of Animal Husbandry Klaten, Department of Industry and Cooperatives), (2) LPTP-AQUA, (3) Cooperative Mojo Songo, and (4) University of IAIN Surakarta. The weakness of this research is that this research has not been able to realize the implementation of environmentally friendly processing of dairy cow's milk production waste. The production waste treatment process has not been realized, it is hoped that the next research will examine how to treat production washing water waste and milk cracker cooking water using a wetland system, replacing milk cracker printing with pan molds, as well as processing soap comb waste into liquid soap in the milk processing business of KWT Ngudi Mulyo.

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