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Feasibility Study of Coconut Oil Factory Business in Banyuasin Regency, South Sumatra Using a Feasibility Study Approach

Dimas Bayu Priantama[1], Ridho Bayuaji[2]
[1,2] Sepuluh Nopember Institute of Technology, Surabaya, Indonesia, 60111.
dimasbayupriantama@gmail.com, bayuaji@ce.its.ac.id

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ABSTRACT

Coconut oil is a global commodity with increasing demand. Indonesia, as the world's largest producer of coconut oil, is still unable to meet market demand. Therefore, the construction of a domestic coconut oil processing factory is essential. This research aims to analyze the business feasibility of building a coconut oil factory in Banyuasin Regency, South Sumatra. The research methods used include analysis of internal and external aspects, IFAS-EFAS analysis, SWOT analysis, PESTEL analysis, and business model canvas. The results of the analysis show that in general, this business is feasible considering the market prospects and availability of supporting raw materials. The most influential internal factor is the availability of raw materials (coconut) due to the high demand for coconut oil, while production capacity still does not meet this need. Meanwhile, the most influential external factor is the demand for coconut oil, so demand becomes an opportunity to build a coconut oil factory. The construction of a coconut oil factory in Banyuasin Regency can achieve success if it pays attention to influential internal and external aspects, as well as implementing strategies to exploit potential or prevent problems from development. A deep understanding of internal and external aspects will help the factory make the right decisions and ensure successful operations in Banyuasin Regency, South Sumatra.

Keywords: Coconut-oil, feasibility-study, SWOT, PESTEL, Business-Model-Canvas

1. Introduction

Coconut oil is a vegetable oil obtained from the kernels of harvested mature coconuts. In recent years, this oil has achieved fame in the health food world (Kappally et al., 2015). Coconut oil has been a very valuable commodity for a long time, both in the food, cosmetics, and health industries. Its rich nutritional content and versatile nature make coconut oil a highly sought-after raw material in various products, one of which is CCO commonly referred to as crude coconut oil which is obtained from dried coconut meat or commonly called copra (Pangestu et al., 2022). Even the largest CCO importers are dominated by the Netherlands 26.9%, America 15.4%, Germany 9.53%, Italy 4.66%, Spain 3.32%, and the rest are mostly European and Asian countries (The Observatory of Economic Complexity, 2021). Meanwhile, the average world consumption of coconut oil per capita is 457 kg per 1000 people. From here, market share provides an opportunity for Indonesia to develop coconut oil production.

Despite its high growth potential, the coconut oil industry is also faced with several challenges. Some of these include uncertainty in the supply of raw materials, production processes that are not yet fully efficient, and the need for innovation in product development.

Based on national superior plantation statistical data, it is recorded that Indonesia has a total coconut plantation area of 3,391,993 hectares with production reaching 2,859,515 tons per year (Ministry of Agriculture, 2023), while South Sumatra itself, based on statistical data for 2022, has an area of 64,645 hectares of coconut plantations. With the production of 58,039 tons per ton per year (Statistics Sumatera Selatan Province, 2022).

According to data from the United States Department of Agriculture (USDA), the ratio of world CCO needs to CCO production in Indonesia is still insufficient to meet world needs. This is due to several factors such as population growth which encourages increased consumption of vegetable oils, and shifts in vegetable oil trends, and production. Palm vegetable oil is experiencing obstacles. Apart from that, the planned location for production has a competitor in South Sumatra Province which is already established with a production capacity of less than 1000 tons per year (Ministry of Industry, 2023). This amount is relatively small for the absorption of coconut raw material production in South Sumatra Province, so there is still potential

* Dimas Bayu Priantama
E-mail addresses: dimasbayupriantama@gmail.com (Sepuluh Nopember Institute of Technology)

to develop technology to absorb the need for coconut oil.

To develop a coconut oil factory, emphasis on competitive advantage and adding value to the product is very important. Factors such as the latest production technology, selection of superior coconut varieties, and efficient supply chain integration can provide significant competitive advantages. In addition, product diversification and the development of new formulations can provide added value that increases the product's attractiveness in the market.

The importance of sustainability in modern industry cannot be ignored. Therefore, the development of a coconut oil factory needs to pay attention to environmentally friendly production practices, good waste management, and corporate social responsibility. Implementing sustainability standards can not only support a company's image but also meet the expectations of consumers who are increasingly concerned about the environment. To take advantage of this market opportunity, companies need to develop efficient and sustainable coconut oil factories.

2. Research Methods

2.1 Research Flowchart

The steps in this research are presented in the flow diagram shown in the following image.

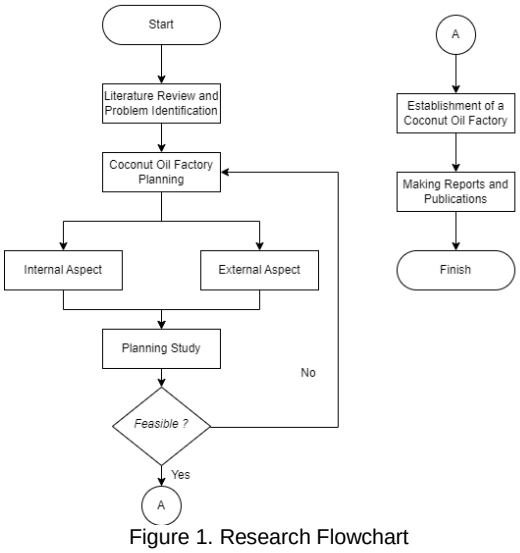


Figure 1. Research Flowchart

2.2 Internal Aspects

Internal analysis at this stage includes several aspects to determine the feasibility of the business to be built. At this stage, the author provides the following analysis:

1. Marketing Program Aspects: The author determines that marketing programs involve product marketing, pricing, promotion, and distribution.
2. Management and Organizational Aspects: The author analyzes and determines management, production supervision, production quality assurance, and marketing.
3. Operational and Technical Aspects: Determining the location by reviewing the supply chain flow so that it is close in terms of raw materials, marketing, and distribution so that it is more efficient.
4. Financial Aspect: Investment calculations are carried out by obtaining calculations of income, cash flow, payback period, Average Rate of Return (ARR), Net Present Value (NPV), and Profitability Index (PI).

2.3 External Aspects

External analysis at this stage includes several factors to determine the feasibility of the business to be built. At this stage, the author provides the following analysis.

1. Marketing Aspect: Determine the target market from domestic and international markets and validate its existence of Intent (LOI) then approve with a contract (MoU).
2. Legal Aspect: Preparing legal standing to fulfill the development of the factory area and surrounding environment.
3. Economic and Social Aspects: Preparing population data that can be used for business sustainability.
4. Technological Aspect: Selection of processing machines/technology with a predetermined capacity.
5. Environmental Aspect: Planning the sequence of steps during the Pre-construction and Construction Phase.

2.4 IFAS-EFAS Analysis

IFAS analysis is a matrix used to determine internal factors related to strengths and weaknesses that are considered important (Juliana et al., 2023). Preparation of IFAS to determine internal factors to describe the strengths and weaknesses of the company. The matrix preparation is as follows (Rahman et al., 2021; Rangkuti, 2018):

1. Identify the strengths and weaknesses.
2. Weighting internal factors.
3. Split ranking of internal factors.
4. Calculates a weighted score.
5. Explains the reasons for selecting factors and how to calculate scores.
6. Add up the weighted scores.

EFAS analysis is an analysis tool used to assess the external factors of an organization. These external factors can be opportunities and threats. The preparation of EFAS is as follows (Rangkuti, 2018):

1. Identify opportunities and threats.
2. Weighting external factors.
3. Split ranking of external factors.
4. Calculates a weighted score.
5. Explains the reasons for selecting factors and how to calculate scores.
6. Add up the weighted scores.

After preparing the IFAS matrix and EFAS matrix, the next step is to carry out the weighting. Giving weights using Pairwise Comparison, that is, comparing the variables of each column. The priority scale uses the Saaty scale. After calculating the weighting in the IFAS-EFAS analysis, the weighting results are used in the IFAS-EFAS analysis matrix.

2.5 PESTEL Analysis

At this stage, analysis using the PESTEL method is used to obtain external factors that will have an impact on business feasibility. PESTEL analysis consists of five factors:

1. Political: Government policies, regulations, and political stability.
2. Economic: Macroeconomic conditions, such as economic growth, inflation, and interest rates.
3. Social: Demographics, culture, and lifestyle.
4. Technological: Technological developments, such as innovation and technological disruption.
5. Environmental: Environmental conditions, such as climate change and environmental sustainability.

2.6 SWOT Analysis

SWOT analysis is an analytical tool used to assess the internal context (strengths and weaknesses) and the external context (threats and opportunities) (Phadermrod et al., 2019; Wu et al., 2024). This analysis aims to provide options for creating an appropriate methodology that is in line with program implementation objectives (Mandira & Damayanti, 2023). The first step to carry out a SWOT analysis is to compile the factors that have influenced the feasibility of a business which have been analyzed using the SWOT matrix. This matrix describes external opportunities and threats adjusted to the strengths and weaknesses.

2.7 Business Model Canvas

Business Model Canvas (BMC) is a visual framework that helps companies map and analyze their business models. This tool offers a straightforward business language for formulating innovation and change (Lou Manning & Renzi, 2023).

BMC's first step is to collect information regarding nine key BMC elements, from customer segments to distribution channels. This data can come from internal company sources or external research such as surveys and interviews.

After filling out the BMC, companies can conduct an in-depth analysis to understand the strengths and weaknesses of the current business model. Analysis is carried out by comparing each BMC element with competitors or industry best practices. The results of this analysis are very useful for developing improvement strategies.

3. Results and Discussion

3.1 Internal Aspects

3.1.1 Market

The main targets for coconut oil (CCO) products from the coconut oil processing factory in Banyuasin Regency are the international and domestic markets by determining:

1. Setting Price: $1500/Metric Ton (MT) for export provided that it follows the world CCO market, and the production price is +10-30% margin for domestic.
2. Marketing Program: The company uses direct B2B methods and social media as promotional media insight B2C and platform E-commerce as marketplace, whereas conventional ones use a network of distributors and agents to reach retail.
3. Product: Coconut oil products are packaged in refillable plastic for B2C and use food-grade standards. Meanwhile, product distribution will include a HALAL certificate from the Indonesian Ulama Council (MUI), permits from the National Food and Drug Agency (BPOM) and the Ministry of Health.

3.1.2 Management and Organization

This coconut oil processing factory in Banyuasin Regency will be managed by PT. XYZ is supported by experts and management aspects of the Holding group. By collaborating with the Palembang government, farmer groups, middleman groups, and local research institutions.

3.1.3 Operational and Technical

The factory will be located in an industrial location close to Tanjung Api Api Port, with a distance of around 25 km, and a journey time of around 30 minutes, making it easier for sea distribution, especially export/import deliveries. The distance to the airport is around 45 km with a travel time of around 1 hour.

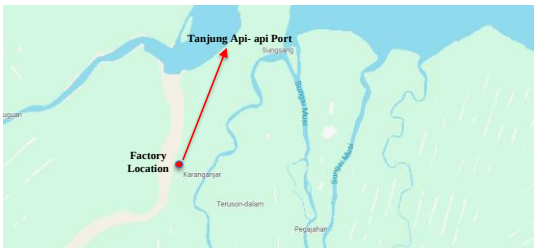


Figure 2. Location of Coconut Oil Factory

3.1.4 Finance

This project is financed by PT ABC Company funding. Calculations for the analysis of investment studies for the coconut oil processing factory in Banyuasin Regency are as follows:

Table 1. Financial Aspects

South Sumatera CCO Factory Summary				
Number	**Criteria**	**Results**	**Industrial Standard**	**Detail**
1	Payback Period (month)	7 months	3 years	Ok
2	ARR	138%	30%	Ok
3	NPV	$ 8.240.425	Positive	Ok
4	Profitability Index	5,55	1.1 (110%)	Ok

The payback period shows the financial feasibility of the coconut oil factory project. The payback period is 7 months, this value is considered very fast because it exceeds the industry standard of 3 years. The average return rate (ARR) is 138%, meaning the profits are obtained every year, so it is stated that this project is very profitable for investors. The Net Present Value NPV is expressed as $8,240,425, this means that the

project is expected to generate a profit of $8,240,425 after deducting the initial investment costs and other costs, considering the time value of money. While the Profitability Index is stated as 5.55, it means that the present value of the project's cash inflow is 5.55 times greater than the present value of the cash outflow, considering the time value of money.

3.2 External Aspects

3.2.1 Market

The main target of coconut oil processing products from the Copra Pressing Factory in Banyuasin Regency, South Sumatra is the international market, with the main customer being CV. KENCANA ADI BUANA which requires 500-1000 MT/month of coconut oil and 400 MT/month of coconut meal, and Varamshop India which requires 180 MT of coconut oil per month on the existing LOI.

3.2.2 Legal

The planning for this coconut oil processing factory is strongly supported by the Indonesian Government, especially to realize Golden Indonesia in 2045 in sustainable economic development. The construction of a coconut oil factory follows Law Number 3 of 2014 concerning Industry, including policy, development, guidance, supervision, and the role of the community in development. The Banyuasin Regency Government is encouraging the acceleration of efforts to spread and equalize the establishment of the coconut oil factory industry.

3.2.3 Economic and Social

Coconut plants have an important role in the lives of the people of Banyuasin Regency, both from a social, cultural, and economic perspective. This is reflected in the number of household businesses (URT) in coconut farming, namely 319,401 (URT). Most of them are coconut farmers from generation to generation. Apart from that, some residents also work as laborers at the Copra Crushing Factory.

3.2.4 Technology

Planning the use of technology using Qi Group as supplier main machine and engineering procurement & construction company as support utility supplier. The milling capacity of this machine is 50 tons per day and produces 30 tons of coconut oil, the rest is turned into cake.

3.2.5 Environment

Planning for the construction of a coconut oil processing factory in the Banyuasin district cannot be separated from paying attention to the surrounding environment. The construction of the coconut oil factory refers to Government Regulation Number 101 of 2012 concerning Recipients of Health Insurance Contribution Assistance and Minister of Environment and Forestry Regulation Number 6 of 2021 concerning Procedures and Requirements for Management of Hazardous and Toxic Waste.

3.3 IFAS & EFAS Matrix

When applying the internal and external factor matrix, standard weights are used and ratings are given based on the magnitude of influence on project feasibility, so that a weighted score is obtained.

Table 2. IFAS Matrix

IFAS Matrix				
Number	**Internal Factors**	**Weight**	**Strength Rating**	**Weighted Score**
1	Market network	0,1	9	0,9
2	Management and HR	0,15	6	0,9
3	Operational and technical	0,25	8	2
4	Financial capabilities	0,2	3	0,6
5	Availability of raw materials (coconut)	0,3	8	2,4
	Total	**1**	**34**	**6,8**

The highest strength rating is in the marketing network because demand for coconut oil is very high, while production capacity is still insufficient to meet demand for coconut oil products. Availability of raw materials is not a problem for production sources because there are still many sources of coconut that have not been absorbed, so upstream needs are not a problem that must be resolved.

From an operational and technical perspective, this factory benefits greatly from its very strategic location supply chain, so it becomes an advantage to gain efficiency inoperational cost in the future. Management and human resources are still considered potential considering that the number of job seekers and unemployed is still large. It is hoped that the existence of this factory will be a solution for the surrounding community, but the competency of prospective employees has still not been tested.

The financial capacity of a company is very important to maintain fund security and maintain cash flow to stay positive. Based on calculations, the amount of capital is considered sufficient, so it needs to be maintained so that the balance remains positive and profitable.

Table 3. EFAS Matrix

EFAS Matrix				
No	**External Factors**	**Weight**	**Strength Rating**	**Weighted Score**
1	Demand for coconut oil	0,2	9	1,8
2	Government policy and legal	0,15	3	0,45
3	Competition	0,15	2	0,3
4	Price of raw materials (coconut)	0,17	8	1,36
5	Regional economic conditions	0,1	5	0,5
6	Production technology	0,1	8	0,8
7	Environmental conditions	0,13	4	0,52
	Total	**1**	**39**	**5,73**

An external factor that can influence the sustainability of the coconut oil factory construction project is the demand for coconut oil. Demand for coconut oil is very strong with a rating of 9 because it is supported by a Letter of Interest (LoI) that has been entered with a need of 180-1000 MT/month. This shows the demand sector as a strength for future expansion.

In the production technology sector, there is no doubt that the main supplier machines that will be used are experienced and specialized manufacturers of agriplantation, so out of necessity technical advice and spare parts are very easy to get. The technology used is secondary pressing which can reduce loss production and maximize the final product.

Based on the survey obtained, companies can benefit from very cheap raw material prices due to their proximity to agricultural land and logistics conditions that benefit from trade routes. The regional economic condition is still quite weak. The unemployment rate and job seekers reached 4.19%, so the development of this new industry could be a solution and reduce the rate of unemployment and job seekers.

In the government policy and legal sector, the score was 3 because it anticipated changes in changing regional leaders, so an intensive approach was needed with local public officials to obtain massive support.

The existence of competitors is not a massive threat because their absorption capacity is relatively small and there are still many needs to be met in the market.

3.4 SWOT Analysis

The following are the results of the SWOT analysis for the study of the construction of a coconut oil factory in Banyuasin Regency.

1. Strengths
   a. Availability of raw materials (coconut) is high
      Banyuasin Regency has great potential in the availability of coconut raw materials. This is an important factor in ensuring the continuity of coconut oil factory operations. The abundant availability of raw materials will enable the factory to produce large and stable quantities of coconut oil.
   b. Production technology is quite capable
      The planned coconut oil factory will be equipped with sophisticated and efficient production technology. This will enable the factory to produce coconut oil of high quality and meet the set standards consistently.
   c. Strategic factory location
      The planned factory location in Banyuasin Regency is very strategic in terms of availability of raw materials, logistics access, and proximity to the port and capital city. This will facilitate efficient product distribution and minimize logistics costs.
2. Weaknesses
   a. Weak management and human resources
      One of the weaknesses identified is weak management and human resources (HR). This can be an obstacle to efficient factory operations and good management. Therefore, it is necessary to increase HR skills and knowledge through training and development to strengthen management capacity.
   b. Weak financial condition
      Weak financial conditions can be a challenge in facing high operational and investment costs to build and run a coconut oil factory. Therefore, a good financial management strategy and careful budget planning are needed.
3. Opportunities
   a. The demand for coconut oil is very high
      Global demand for coconut oil continues to increase, both for food and non-food needs. This creates a huge opportunity for coconut oil factories to meet high market demand and increase revenues.
   b. Raw material (coconut) price is high
      Strong coconut raw material prices can be an opportunity for coconut oil factories to maintain stable profits. When raw material prices are low, factories can increase profit margins or offer more competitive prices in the market.
4. Threats
   a. Unsupportive government policies
      Unsupportive government policies, such as strict regulations or inadequate incentives, can pose a threat to the sustainability of coconut oil factory operations. Strategies are needed to anticipate and adapt to these policies.
   b. Weak regional economic conditions
      Weak regional economic conditions can impact consumer purchasing power and demand for coconut oil. Therefore, the factory needs to prepare strategies to deal with unfavorable economic situations.
   c. Competitor has better technology
      Competitors with better production technology can pose a threat to coconut oil factories in terms of efficiency and product quality. To overcome this, the factory needs to continue to innovate and improve technology on an ongoing basis.

Based on the strengths, weaknesses, opportunities, and threats that have been previously identified, the strategies for the successful construction of a coconut oil factory in Banyuasin Regency include:

1. S-O Strategy (Strengths-Opportunities)
   a. Utilizing the availability of strong raw materials to meet high market demand.
   b. Improving production technology to produce high-quality and competitive coconut oil products.
2. W-O Strategy (Weaknesses-Opportunities)
   a. Anticipate unsupportive government policies by collaborating with relevant stakeholders.
   b. Increasing product and service differentiation to compete with competitors.
3. S-T Strategy (Strengths-Threats)

a. Strengthening management and HR with employee training and development.
b. Building an effective marketing network to reach a wider market.

4. W-T Strategy (Weaknesses-Threats)
   a. Conduct market research to understand demand trends and consumer needs.
   b. Increase operational efficiency and reduce production costs to deal with weak economic conditions.
   c. Implement environmentally friendly and sustainable business practices to minimize impact on the environment.

SWOT MATRIX		
Internal Factors **External Factors**	**Strengths (S)** -Availability of raw materials (coconut) is high -Production technology is quite capable -Strategic factory location	**Weakness (W)** -Weak management and human re-sources -Weak financial condition
Opportunities (O) -The demand for coconut oil is very high -Raw material (coconut) price is high	**SO (Strengths-Opportunities)** -Utilizing the availability of strong raw materials to meet high market demand -Improving production technology to pro-duce high quality and competitive coco-nut oil products	**WO (Weakness-Opportunities)** -Anticipate unsupportive government poli-cies by collaborating with relevant stake-holders -Increasing product and service differenti-ation to compete with competitors
Threats (T) -Unsupportive government policies -Weak regional economic conditions -Competitor has better technology	**ST (Strengths-Threats)** -Strengthening management and HR with employee training and development -Building an effective marketing network to reach a wider market	**WT (Weakness-Threats)** -Conduct market research to understand demand trends and consumer needs -Increase operational efficiency and re-duce production costs to deal with weak economic conditions -Implement environmentally friendly and sustainable business practices to mini-mize impact on the environment

Figure 3. SWOT Matrix

3.5 PESTEL Matrix

Based on the PESTEL analysis for the study of the coconut oil factory construction in Banyuasin Regency, several factors need to be considered as follows:

1. Political Factors
   a. Government policy regarding the palm oil industry
      The Indonesian government has various policies that regulate the palm oil industry, including coconut oil production. These policies can include import-export regulations, fiscal incentives, and environmental regulations. A good understanding of this policy is essential to ensure compliance and continuity of coconut oil mill operations.
   b. Political stability and security in the location
      Political stability and security in Banyuasin Regency and the surrounding area are important factors in ensuring the continuity of factory operations. A stable situation will create a conducive investment climate and better facilitate business activities.
   c. International trade and import duties
      International trade and import duty policies can affect exports and imports of coconut oil and related raw materials. A good understanding of international trade regulations will help factories plan effective marketing and logistics strategies.
2. Economic Factors
   a. National and regional economic growth
      National and regional economic growth will influence demand for coconut oil products. Positive economic growth tends to increase people's purchasing power and product demand in general.
   b. Inflation rate and interest rates
      Inflation and interest rates can have an impact on factory operational costs, such as raw materials, labor, and capital costs. Careful monitoring of these factors can help the factory anticipate and make necessary adjustments.
   c. Community purchasing power
      People's purchasing power is very important in determining demand for coconut oil products, both for household and industrial consumption. Factory needs to understand trends in people's purchasing power and adjust marketing and pricing strategies appropriately.
3. Social Factors
   a. Demand for coconut oil for household and industrial consumption
      The demand for coconut oil for household consumption and industrial needs is a key factor in determining the success of the factory. Factory needs to monitor demand

trends and adjust production and marketing strategies accordingly.

b. Public awareness about health and the environment
Increasing public awareness about health and the environment can influence consumer demand and preferences for coconut oil products. Factory needs to consider these aspects in producing and marketing their products.

c. Culture and lifestyle of the people
People's culture and lifestyle can influence coconut oil consumption patterns. A good understanding of these factors will help the factory adapt products and marketing strategies according to consumer preferences.

4. Technology Factors
   a. Development of coconut oil processing technology
   The development of coconut oil processing technology that is more efficient and environmentally friendly can provide a competitive advantage for factories. Factory needs to continue monitoring and adopting the latest technology to increase productivity and product quality.
   b. The emergence of new technology that can replace coconut oil
   The emergence of new technologies that can replace coconut oil, such as alternative vegetable oils, could pose a threat to factories. Factory needs to monitor these technological developments and adjust business strategies accordingly.
   c. Access to technology and information
   Good access to the latest technology and information can help the factory increase efficiency and develop innovative new products. Factory needs to ensure that they have adequate access to relevant technology and information resources.
5. Environment Factors
   a. Environmental regulations related to emissions and waste
   Strict environmental regulations regarding emissions and waste management from coconut oil factories must be adhered to. Factory needs to ensure that their operations are environmentally friendly and meet set standards.
   b. Availability of water and other natural resources
   The availability of water and other natural resources needed in the coconut oil production process needs to be considered. Factory needs to ensure sustainable access to these resources and implement appropriate conservation practices.
   c. Climate change and its impact on coconut plants
   Climate change can impact the productivity of coconut plants, which are the main raw material for coconut oil factories. Factories need to monitor the impacts of climate change and adapt with appropriate strategies, such as diversifying raw material sources or increasing crop resilience.
6. Legal Factor
   a. Completeness of business permits
   Coconut oil factories must ensure that they have all the necessary business permits, such as environmental permits, business permits, etc. Factory needs to understand all applicable legal requirements and ensure compliance with them.
   b. Terms of employment
   The factory must comply with all applicable labor provisions, such as minimum wages, social security, and work safety regulations. Compliance with these regulations will ensure good industrial relations and prevent legal risks.
   c. Tax regulations
   Applicable tax regulations, such as income tax, value-added tax, and other taxes, must be understood and complied with by the factory. Factory needs to ensure that they report and pay taxes timely and accurately.
   d. Business competition regulations
   Business competition regulations that regulate fair business practices and prevent unfair competition must be complied with by the factory. Factory needs to ensure that they do not engage in anti-competitive practices, such as cartels, abuse of dominant positions, or unfair exclusive agreements.
   e. Consumer protection regulations
   Coconut oil factories must comply with regulations that protect consumer rights, such as provisions regarding accurate product information, product safety, and handling consumer complaints. Compliance with these regulations will build consumer trust and avoid legal risks.
   f. Customs regulations
   Customs regulations governing the import and export of raw materials and coconut oil products must be well understood by the factory. Factory needs to ensure that they comply with all customs requirements and pay appropriate fees to avoid legal problems in international trade.

PESTEL MATRIX					
P	E	S	T	E	L
Politic	**Economic**	**Social**	**Technology**	**Environment**	**Legal**
-Government policy regarding the palm oil industry -Political stability and security in the loca-tion -International trade and import duties	-National and regional economic growth -Inflation rate and interest rates -Community purchasing power	-Demand for coconut oil for household and industrial consumption -Public awareness about health and the environment -Culture and lifestyle of the people	-Development of coconut oil processing technology -The emergence of new technology that can replace coconut oil -Access to technology and information	-Environmental regulations related to emissions and waste -Availability of water and other natural resources -Climate change and its impact on coco-nut plants	-Completeness of business permits -Terms of employment -Tax regulations -Business competition regulations -Consumer protection regulations -Customs regulations

Figure 4. PESTEL Matrix

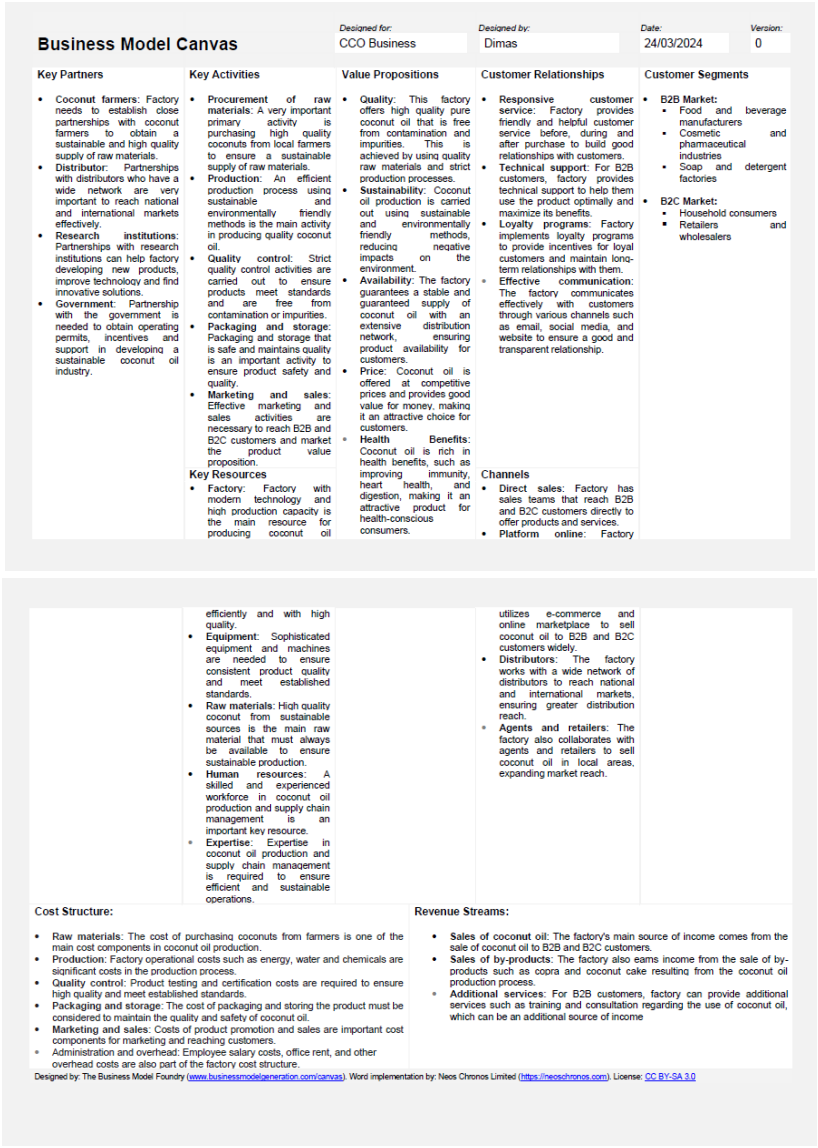
3.6 Business Model Canvas (BMC)

The following Business Model Canvas (BMC) is used to study the construction of a coconut oil factory in Banyuasin Regency.

1. Value Proposition
   a. Quality: This factory offers high-quality pure coconut oil that is free from contamination and impurities. This is achieved by using quality raw materials and strict production processes.
   b. Sustainability: Coconut oil production is carried out using sustainable and environmentally friendly methods, reducing negative impacts on the environment.
   c. Availability: The factory guarantees a stable and guaranteed supply of coconut oil with an extensive distribution network, ensuring product availability for customers.
   d. Price: Coconut oil is offered at competitive prices and provides good value for money, making it an attractive choice for customers.
   e. Health Benefits: Coconut oil is rich in health benefits, such as improving immunity, heart health, and digestion, making it an attractive product for health-conscious consumers.
2. Customer Segments
   a. B2B Market:
      1) Food and beverage manufacturers: Factory targets companies that produce food and beverages as B2B customers.
      2) Cosmetic and pharmaceutical industries: Coconut oil is also used in cosmetic and pharmaceutical products, so the factory targets these industries as B2B customers.
      3) Soap and detergent factories: Coconut oil is used as a raw material in soap and detergent production, making soap and detergent factories potential B2B customers.
      4) Industrial raw material distributors: The factory can sell coconut oil to industrial raw material distributors who then distribute it to various other industries.
   b. B2C Market:
      1) Household consumers: Coconut oil is also targeted at household consumers who use it for cooking and beauty purposes.
      2) Retailers and wholesalers: Factories can sell coconut oil to retailers and wholesalers who then sell it to end consumers.
3. Channels
   a. Direct sales: Factory has sales teams that reach B2B and B2C customers directly to offer products and services.
   b. Platform online: The factory utilizes e-commerce and an online marketplace to sell coconut oil to B2B and B2C customers widely.
   c. Distributors: The factory works with a wide network of distributors to reach national and international markets, ensuring greater distribution reach.
   d. Agents and retailers: The factory also collaborates with agents and retailers to sell coconut oil in local areas, expanding market reach.
4. Customer Relationships
   a. Responsive customer service: Factory provides friendly and helpful customer service before, during, and after purchase to build good relationships with customers.
   b. Technical support: For B2B customers, the factory provides technical support to help them use the product optimally and maximize its benefits.
   c. Loyalty programs: Factory implements loyalty programs to provide incentives for loyal customers and maintain long-term relationships with them.
   d. Effective communication: The factory communicates effectively with customers through various channels such as email,

social media, and website to ensure a good and transparent relationship.

5. Revenue Streams
   a. Sales of coconut oil: The factory's main source of income comes from the sale of coconut oil to B2B and B2C customers.
   b. Sales of by-products: The factory also earns income from the sale of by-products such as copra and coconut cake resulting from the coconut oil production process.
   c. Additional services: For B2B customers, the factory can provide additional services such as training and consultation regarding the use of coconut oil, which can be an additional source of income.
6. Key Resources
   a. Factory: A factory with modern technology and high production capacity is the main resource for producing coconut oil efficiently and with high quality.
   b. Equipment: Sophisticated equipment and machines are needed to ensure consistent product quality and meet established standards.
   c. Raw materials: High-quality coconut from sustainable sources is the main raw material that must always be available to ensure sustainable production.
   d. Human resources: A skilled and experienced workforce in coconut oil production and supply chain management is an important key resource.
   e. Expertise: Expertise in coconut oil production and supply chain management is required to ensure efficient and sustainable operations.
7. Key Activities
   a. Procurement of raw materials: A very important primary activity is purchasing high-quality coconuts from local farmers to ensure a sustainable supply of raw materials.
   b. Production: An efficient production process using sustainable and environmentally friendly methods is the main activity in producing quality coconut oil.
   c. Quality control: Strict quality control activities are carried out to ensure products meet standards and are free from contamination or impurities.
   d. Packaging and storage: Packaging and storage that is safe and maintains quality is an important activity to ensure product safety and quality.
   e. Marketing and sales: Effective marketing and sales activities are necessary to reach B2B and B2C customers and market the product value proposition.
8. Key Partners
   a. Coconut farmers: The factory needs to establish close partnerships with coconut farmers to obtain a sustainable and high-quality supply of raw materials.
   b. Distributor: Partnerships with distributors who have a wide network are very important to reach national and international markets effectively.
   c. Research institutions: Partnerships with research institutions can help factories develop new products, improve technology, and find innovative solutions.
   d. Government: Partnership with the government is needed to obtain operating permits, incentives, and support in developing a sustainable coconut oil industry.
9. Cost Structure
   a. Raw materials: The cost of purchasing coconuts from farmers is one of the main cost components in coconut oil production.
   b. Production: Factory operational costs such as energy, water, and chemicals are significant costs in the production process.
   c. Quality control: Product testing and certification costs are required to ensure high quality and meet established standards.
   d. Packaging and storage: The cost of packaging and storing the product must be considered to maintain the quality and safety of coconut oil.
   e. Marketing and sales: Costs of product promotion and sales are important cost components for marketing and reaching customers.
   f. Administration and overhead: Employee salary costs, office rent, and other overhead costs are also part of the factory cost structure.



Business Model Canvas

Designed for:	Designed by:	Date:	Version:
CCO Business	Dimas	24/03/2024	0

Key Partners

- **Coconut farmers**: Factory needs to establish close partnerships with coconut farmers to obtain a sustainable and high quality supply of raw materials.
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Key Activities

- **Procurement of raw materials**: A very important primary activity is purchasing high quality coconuts from local farmers to ensure a sustainable supply of raw materials.
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- **Marketing and sales**: Effective marketing and sales activities are necessary to reach B2B and B2C customers and market the product value proposition.

Key Resources

- **Factory**: Factory with modern technology and high production capacity is the main resource for producing coconut oil efficiently and with high quality.
- **Equipment**: Sophisticated equipment and machines are needed to ensure consistent product quality and meet established standards.
- **Raw materials**: High quality coconut from sustainable sources is the main raw material that must always be available to ensure sustainable production.
- **Human resources**: A skilled and experienced workforce in coconut oil production and supply chain management is an important key resource.
- **Expertise**: Expertise in coconut oil production and supply chain management is required to ensure efficient and sustainable operations.

Value Propositions

- **Quality**: This factory offers high quality pure coconut oil that is free from contamination and impurities. This is achieved by using quality raw materials and strict production processes.
- **Sustainability**: Coconut oil production is carried out using sustainable and environmentally friendly methods, reducing negative impacts on the environment.
- **Availability**: The factory guarantees a stable and guaranteed supply of coconut oil with an extensive distribution network, ensuring product availability for customers.
- **Price**: Coconut oil is offered at competitive prices and provides good value for money, making it an attractive choice for customers.
- **Health Benefits**: Coconut oil is rich in health benefits, such as improving immunity, heart health, and digestion, making it an attractive product for health-conscious consumers.

Customer Relationships

- **Responsive customer service**: Factory provides friendly and helpful customer service before, during and after purchase to build good relationships with customers.
- **Technical support**: For B2B customers, factory provides technical support to help them use the product optimally and maximize its benefits.
- **Loyalty programs**: Factory implements loyalty programs to provide incentives for loyal customers and maintain long-term relationships with them.
- **Effective communication**: The factory communicates effectively with customers through various channels such as email, social media, and website to ensure a good and transparent relationship.

Channels

- **Direct sales**: Factory has sales teams that reach B2B and B2C customers directly to offer products and services.
- **Platform online**: Factory utilizes e-commerce and online marketplace to sell coconut oil to B2B and B2C customers widely.
- **Distributors**: The factory works with a wide network of distributors to reach national and international markets, ensuring greater distribution reach.
- **Agents and retailers**: The factory also collaborates with agents and retailers to sell coconut oil in local areas, expanding market reach.

Customer Segments

- **B2B Market:**
  - Food and beverage manufacturers
  - Cosmetic and pharmaceutical industries
  - Soap and detergent factories
- **B2C Market:**
  - Household consumers
  - Retailers and wholesalers

Cost Structure:

- **Raw materials**: The cost of purchasing coconuts from farmers is one of the main cost components in coconut oil production.
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- Administration and overhead: Employee salary costs, office rent, and other overhead costs are also part of the factory cost structure.

Revenue Streams:

- **Sales of coconut oil**: The factory's main source of income comes from the sale of coconut oil to B2B and B2C customers.
- **Sales of by-products**: The factory also earns income from the sale of by-products such as copra and coconut cake resulting from the coconut oil production process.
- **Additional services**: For B2B customers, factory can provide additional services such as training and consultation regarding the use of coconut oil, which can be an additional source of income

Figure 5. Business Model Canvas

4. Conclusion

Coconut oil has been a very valuable commodity for a long time, both in the food, cosmetics, and health industries. Its rich nutritional content and versatile properties make coconut oil a highly sought-after raw material in various products. The development of a coconut oil factory needs to pay attention to environmentally friendly production practices, good waste management, and corporate social responsibility, as does the construction of a coconut oil factory in the Banyuasin Regency. Based on the results of the development feasibility study analysis, this business is feasible. The following are the results of each analysis:

1. Internal aspects: Domestic and international marketing targets, management supported by experts who collaborate with the government and the community, factory location close to the port, and after-tax income of $2,499,120/year.
2. External aspects: The main marketing target is the international market, factory planning is under statutory regulations, coconut plants are the main commodity of Banyuasin Regency, the technology used comes from the Qi Group as supplier main machine, and planning for factory construction is carried out considering the environment.
3. Based on the IFAS-EFAS analysis, the most influential internal factor is the availability of raw materials (coconut) due to the high demand for coconut oil, while production capacity still does not meet this need. Meanwhile, the most influential external factor is the demand for coconut oil, so demand becomes an opportunity to build a coconut oil factory.
4. Based on the SWOT analysis, the construction of a coconut oil factory in Banyuasin Regency can achieve success if it pays attention to influential internal and external aspects, as well as implementing strategies to exploit potential or prevent problems from development.
5. Based on consideration of political, economic, social, technological, environmental, and legal factors in this PESTEL analysis, the coconut oil factory can anticipate existing challenges

and opportunities and design more effective and sustainable business strategies. A deep understanding of each factor in the PESTEL analysis will help the factory make the right decisions and ensure successful operations in Banyuasin Regency, South Sumatra.

6. Based on the consideration of all aspects of the Business Model Canvas, the coconut oil factory in Banyuasin Regency can build a solid and sustainable business model. A deep understanding of the value proposition, customer segments, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structures will help the factory make strategic decisions and achieve success in the coconut oil industry.

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