

CAPITAL BUDGETING MODEL AND INVESTMENT STRATEGY FOR PHASE TWO BOX DRYER AND DRY BLEND FACILITIES A CASE STUDY AT PT ABC

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ABSTRACT

The savory business in Asia is very promising, the Asian market has a market value of 252.88 trillion rupiah for savory products. Meanwhile, Indonesia has a very large percentage of all food circulation consisting of 76% of foods containing savory and another 24% being rice. Currently most of the companies in Indonesia (food companies) still import the top note ingredients from America, and Europe. Savory meat is the final product of the meat paste which is used in various products or processed foods. PT ABC will be the first company in Indonesia to carry out all production processes starting from meat paste, meat powder, and meat savory or culinary blend. Currently a meat reactor machine has been built to produce meat paste. The next stage is to build another facility for Box Dryer (Meat Powder) and Dry Blender (Meat Savory). After doing some calculation based on the initial forecast from PT. ABC, it was found that the payback period for the standard scenario was 2.86 years, 2.43 years for the optimistic, and 4.05 years for the pessimistic. The IRR is 37% for the standard, 44% for the optimistic, and 24% for the pessimistic scenario, with a WACC rate of 10%. The NPV for the whole scenario is 251 BIDR for the standard scenario, 350.5 BIDR for the optimistic scenario, and 122.1 BIDR for the pessimistic scenario. This investment also contributes to SDG goals with several impacts on humans and the environment.

Keywords: Capital Budgeting, Box Dryer Machine & Dry Blender Machine, Sustainable Development Goals, Payback Period, Net Present Value, WACC.

INTRODUCTION

More than a quarter of a billion people are now facing acute levels of hunger, and some are on the brink of starvation. That's unconscionable. This seventh edition of the Global Report on Food Crises (GRFC) is a stinging indictment of humanity's failure to make progress towards the Sustainable Development Goal (SDG) to end hunger and achieve food security and improved nutrition for all. In fact, we are moving in the wrong direction. Conflicts and mass displacement continue to drive global hunger. Rising poverty, deepening inequalities, rampant underdevelopment, the climate crisis and natural disasters also contribute to food insecurity (Food Security Information Network, 2023).

In 2022, around 51 million people faced high levels of acute food insecurity in five major food-crisis countries in Asia. The increase in those countries from almost 29 million in 2021 was largely due to the inclusion of Myanmar and Sri Lanka and their categorization as major food crises for the first time in the GRFC, together accounting for over 21 million people facing high levels of acute food insecurity in 2022 (Food Security Information Network, 2023).

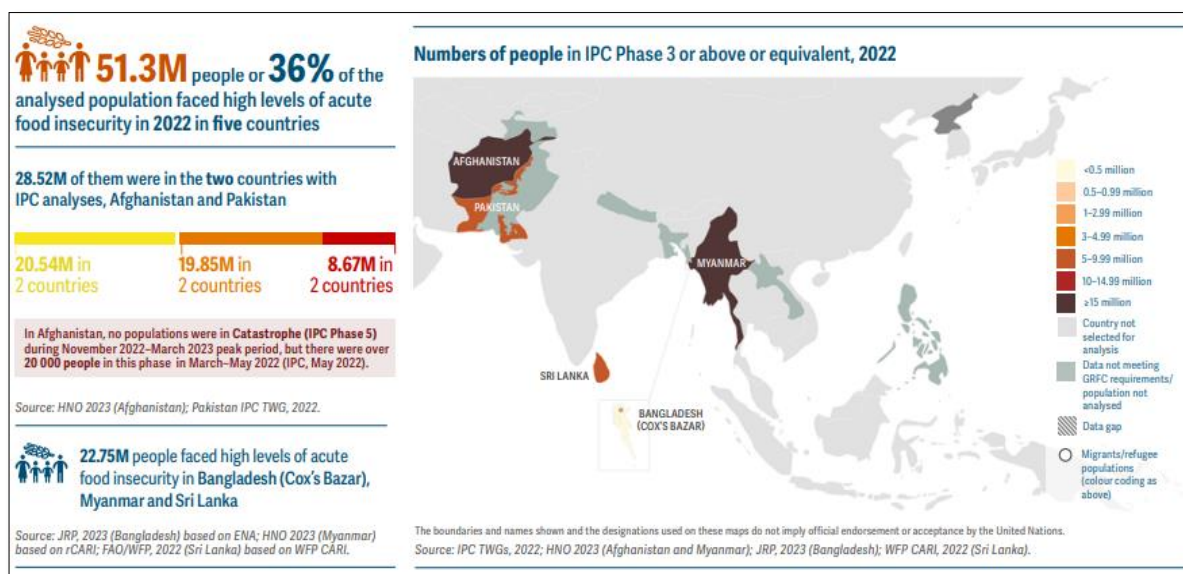


Figure 1. Global Report on Food Crises Chapter Asia
Source: JRP, 2023

In this case the author focuses on the savory market in Indonesia as a core raw material or ingredient in the food industry. Currently Indonesia still imports some key top note of raw materials (savory and sweet) from the USA, especially for raw meat, meat savory, and sweet top notes as main ingredients in recipes.

The market for meat powder and meat savory products in Indonesia shows great promise, as indicated by the data in table 1.1 below. The potential market for savory and sweet derivatives is substantial. However, there are challenges in meeting domestic demand and exporting to the Asian market due to a lengthy supply chain (Inbound, process, outbound), numerous certifications (such as NKV Nomor Kontrol Veteriner, food safety microbiology test, etc), expensive machinery, low DIO, and other associated risks. These factors have made potential investors hesitant to seize this opportunity.

Table 1 Indonesia Sales of Package food 2018 – 2022 (in US\$ Million)

Retail Packaged Food	2018	2019	2020	2021	2022	Share 2022
Rice	7,272.4	7,730.5	8,310.3	9,016.7	9,801.2	24.4%
Edible Oils	1,749.9	1,864.4	2,104.6	2,414.7	3,670.8	9.2%
Noodles	2,678.0	2,849.7	3,042.1	3,311.2	3,610.7	9.0%
Baked Goods	2,351.7	2,502.0	2,439.4	2,611.7	3,072.7	7.7%
Baby Food	2,410.6	2,456.0	2,543.4	2,570.3	2,650.3	6.6%
Drinking Milk Products	1,886.0	2,066.1	2,168.7	2,317.6	2,482.3	6.2%
Sauces, Dips and Condiments	1,828.3	1,936.4	2,066.5	2,232.5	2,418.0	6.0%
Sweet Biscuits, Snack Bars and Fruit Snacks	1,752.7	1,911.3	2,017.3	2,137.7	2,336.4	5.8%
Savory Snacks	1,670.4	1,810.8	1,836.3	1,919.4	2,030.6	5.1%
Processed Meat, Seafood and Alternatives to Meat	1,301.5	1,570.9	1,560.4	1,755.6	1,976.8	4.9%
Confectionery	1,895.7	2,034.6	1,932.4	1,805.7	1,863.7	4.6%
Other Dairy	914.2	957.9	1,042.5	1,124.0	1,224.6	3.1%
Ice Cream	722.6	891.5	854.1	988.7	1,062.3	2.6%
Yoghurt and Sour Milk Products	374.3	423.4	495.3	585.7	700.0	1.7%
Cheese	159.3	177.9	256.8	338.0	421.8	1.1%
Sweet Spreads	157.8	169.9	186.5	210.6	239.6	0.6%
Breakfast Cereals	101.0	116.3	132.0	145.5	159.7	0.4%
Butter and Spreads	113.4	118.0	133.3	144.7	157.3	0.4%
Plant-based Dairy	74.5	81.9	93.6	107.2	123.7	0.3%
Processed Fruit and Vegetables	40.8	42.8	45.4	48.2	51.3	0.1%
Pasta	26.5	27.8	28.8	30.4	32.1	0.1%
Ready Meals	11.4	12.0	13.0	14.2	15.6	0.0%
Soup	6.5	6.9	7.3	7.9	8.5	0.0%
Total	29,499.5	31,759.0	33,310.0	35,838.2	40,110.0	

Source: Euromonitor International – Food Processing Ingredients, 2023

Phase	Product	Machine	Foto
Phase 1	Meat Paste		
Phase 2	Meat Powder		
	Meat Savory		

Figure 2, Flow Process of Meat Savory
Source: Business Case Project Meat Savory, 2023.

The process of creating meat savory or sweet savory, currently involves three stages as shown in figure 2 above. The first stage is the enzymatic reaction, which is the process of creating meat paste. The second stage involves the construction of Box Dryer and Dry Blender facilities which will produce meat powder and savory meat. This will b make our company the first in Indonesia and

Asia to complete all processes in the same area and have access to all the necessary technology. This will improve supply in Indonesia by reducing lead times, addressing quality issues, and lowering production cost.

RESEARCH PROBLEM

To support the strategic decision to achieve cost optimization, supply issue, relieve profitability pressures (GM) and to fulfil its SDG goal of PT. ABC, the management is planning to install the high-tech machine and inhouse production to tackles the current supply issue and high emission due to inbound activities (Import from USA – Indonesia) and tolling process with another company.

RESEARCH QUESTIONS

Based on the information and problem statement provided, this study aims to address the following questions:

1. How will the management of PT. ABC apply operational strategy to address the complexities of the meat savory supply chain?
2. How to measure and evaluate the feasibility of the Box Dryer and Dry Blender investment project under scenarios of Standard, Optimistic, and Pessimistic?
3. How do changes in sales volume, operating expenses, and net cash flow impact the sensitivity of the Box Dryer and Dry Blender investment project under Standard, Pessimistic, and Optimistic scenario?
4. In what ways can the Box Dryer and Dry Blender project investment assist PT. ABC in supporting the Sustainable Development Goals aspect?

RESEARCH OBJECTIVES

In line with the research question above, the objectives of this research are as follows:

1. To analyze and evaluate the operational strategy that will be implemented by the management of PT. ABC to address the complexities of the meat savory supply chain.
2. To assess the feasibility of the Box Dryer and Dry Blender investment project under Standard, Optimistic, and Pessimistic scenarios
3. To analyze and evaluate the impact of changes in sales volume, operating expenses, and cash flow on the sensitivity of the investment project under three scenarios.
4. To analyze and measure the Box Dryer and Dry Blender project investment able to help PT. ABC in supporting the Sustainable Development Goals aspect?

LITERATURE REVIEW

According to Gurel Emet (2017), SWOT Analysis is a process that involves categorizing four areas into two dimensions. It consists of four components: Strengths, weaknesses, opportunities, and threats. Strengths and weaknesses are internal factors and attributes of the organization, while opportunities and threats are external factors and attributes of the environment. SWOT Analysis is typically represented in a four-quadrant box, allowing for a summary organized according to the four section titles. In SWOT Analysis, the strong and weak aspects of an organization are identified by examining the elements in its environment, while environmental opportunities and threats are determined by examining the elements outside its environment.

Porter's Five Forces model is a strategic framework used to identify and analyze the five forces that impact a company's profitability. It is a critical tool in strategic analysis, helping companies determine how manage competitive forces to maximize profitability (Tefi Alonso, 2023). The model is commonly employed to assess both the industry structure and corporate strategy of a company, focusing on the influence of buyers, suppliers, new entrants, substitution, and rivalry on each other within an industry. Figure 2.1 Summarizes Porter's Five Forces Model.

According to Schramade & Willem (2023), capital budgeting is the process of determining which investment projects to undertake. It involves deciding how to allocate current funds for the addition, disposition, modification, or replacement of fixed assets. These large expenditures may include the purchase of fixed assets such as land and buildings, new equipment, rebuilding or replacing existing equipment, and research and development.

The Sustainable Development Goals (SDGs) are a collection of 17 global objectives set by the United Nations (UN) in September 2015 as part of the 2030 Agenda for Sustainable Development. These goals were established to tackle a variety of social, economic, and environmental issues that the world is facing, with the goal of promoting prosperity, safeguarding the planet, and ensuring peace and well-being for all. Each goal has specific targets and indicators designed to steer international efforts towards creating a sustainable and fair world by the year 2030.

METHODOLOGY

According to Polit and Beck (2004), methodology refers to the methods used for collecting. Patel (2019), defines it as a systematic approach to solving research problems, involving theoretical analysis of methods applied to a specific field of study. Bowling (2002), describes methodology as the overall structure of a research study, encompassing the size and sampling methods, data collection practices and techniques, and data analysis procedures. This chapter outlines the methodologies and procedures used to achieve the study's goals, including the research design, research instrument, data collection method, data quality and reliability of the data, and the analytical tools employed.

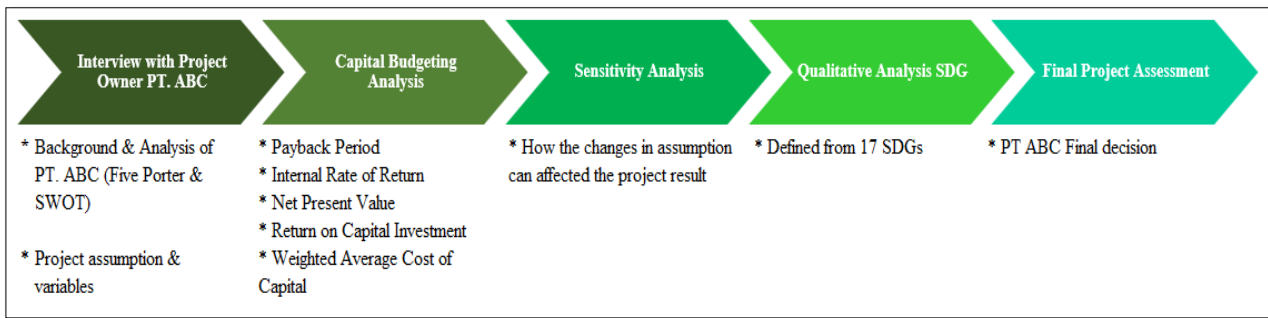


Figure 3, Methodology
Source: Author, 2023

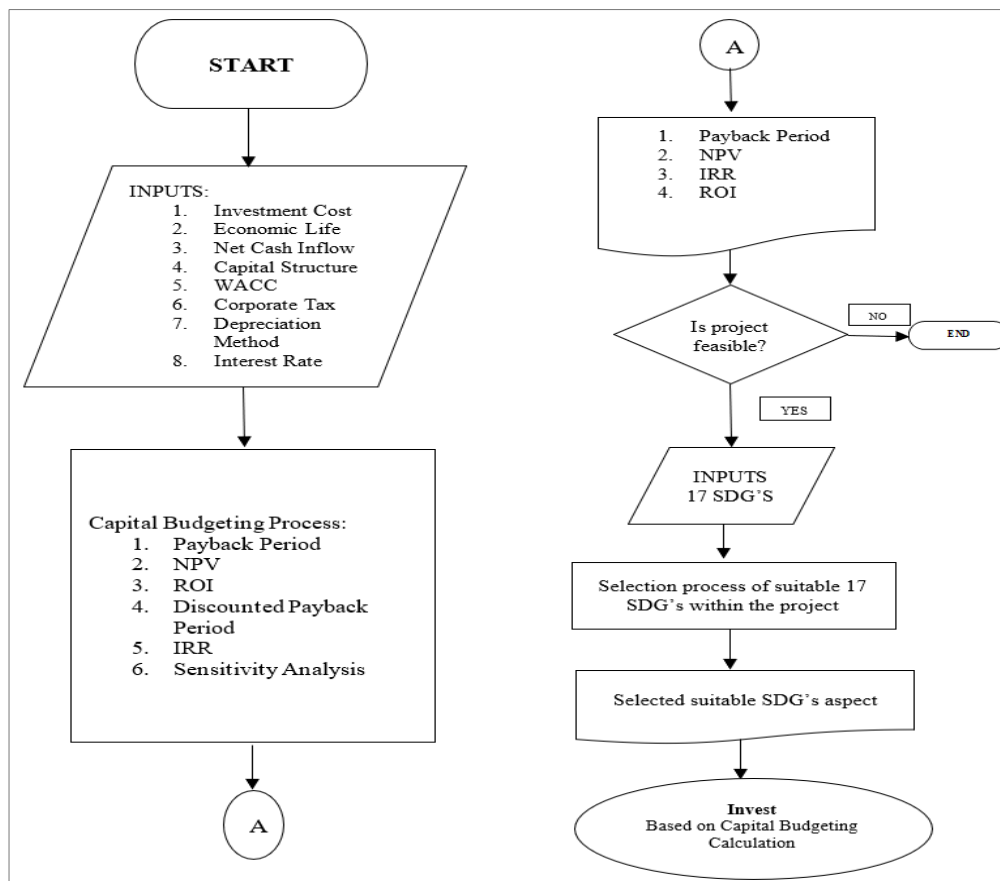


Figure 4, Research Methodology
Source: Author, 2023

FINDING ANALYSIS AND DISCUSSION

The author conducted interviews and direct discussions with the site director, project head, and global technology owner (GTO) from PT. ABC, to understand the strong reasons for the project, the strategy designed, short-term and long-term plans and to obtain data as an estimate of future performance related to financial assumptions. There have been many unresolved problems in the complex supply chain in the FMCG industry, food industry and processing of other semi-finished materials. Geographical conditions greatly influence the availability of certain raw materials, for example Indonesia continues to import meat paste, meat powder and meat savory from several countries in America. Handling is so complicated that many companies don't get involved in this sector.

In particular, the machines or technology used to process meat powder to meat savory are complicated and expensive. Currently there are only two companies in the world developing this technology and each of them applies different principles in the process. PT. ABC will choose Twin Box Dryer technology. The advantage of this type of machine is the ability to produce high yields (96%-99%) from the RM consumed, providing more output to the company. Likewise, there is an increase in OEE (Overall equipment effectiveness) because at the same time other lines of this machine can be used for the production process, while others are carrying out the CIP (Clean in Place) process.

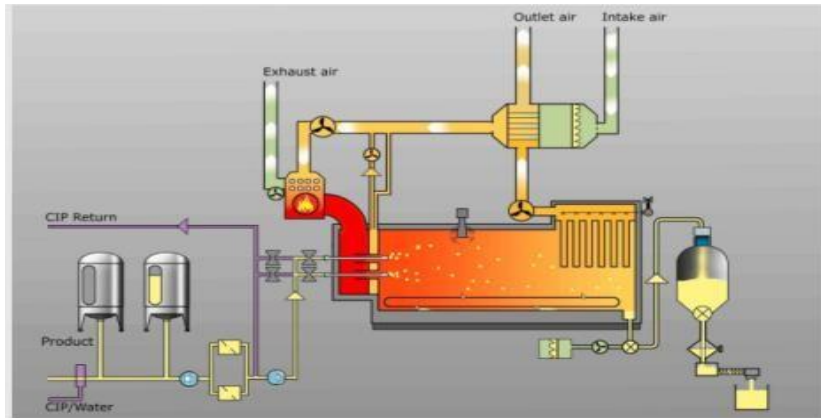


Figure 5, Twin Box Dryer Machine
Source: PT. ABC, 2023

Meat Powder will pass through the machine's Box Dryer at high temperature, to speed up the drying process of meat paste as Figure 4 This machine will push all the products from the wall of the dryer box so that there will not be much waste left during the process. This technology will be used by PT. ABC in Indonesia, as well as being the first in Asia Pacific.

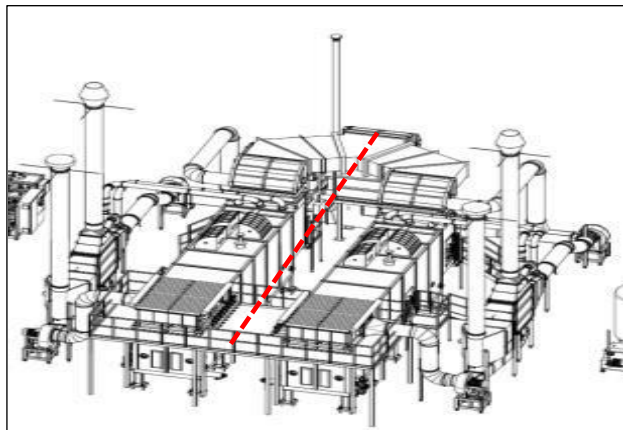


Figure 6, Twin Box Dryer Machine Layout
Source: PT. ABC, 2023

Figure 4.3 below shows that the dry blend process is very simple, which only requires a vertical Dry Blend Machine and a small additional CIP to support clean in place activities. This machine is also capable of providing a good yield percentage - around 96% - 99% of all the material entered. In one hour, this machine will be able to produce 2,000 kg of meat savory and is sufficient to meet Indonesia's domestic needs and also exports to countries in the Asia Pacific.



Figure 7, Vertical Dry Blend Machine
Source: PT. ABC, 2023

PT. ABC’s management, along with the author utilizes SWOT analysis and the Five Porter Forces as tools to assess the company's position in the market, considering both internal and external factors. By employing these strategies, PT. ABC can effectively navigate the entire business chain. The company will address quality and packaging issues, particularly those related to receiving raw materials from US, by focusing on the production process from start to finished product.

Table 2, Five Porters Forces Analysis

Rivalry among Existing Competitors	Customer Bargaining Power	Supplier Bargaining Power	Threat of New Entrants	Threat of Substitutes
The first pioneer company in Asia to produce meat savory from direct raw meat.	High demand and low price of meat savory. Asian food that is rich in flavors and spices	Some of the largest livestock companies are in Indonesia and Asia (Chicken, Beef, Fish)	Requires expensive investment, complicated process flow, difficult for new entrants.	Health awareness, still consuming real meat.
Difficult to imitate, because it has gone through quite a long development (CR&D)	Very high export potential, affordable prices and high quality.	The price of meat in Indonesia is relatively cheaper.	The technology is complicated and there are limited suppliers who develop this machine.	The number of people who are vegetarian every year increases, not eat product products
A unique and extra handling product, because it contains microbiology.	Very long relationship, high trust as a partnership.	High qty consumption will be an attractive offer for suppliers	Requires a large area and high operational costs, giving entrants many considerations	
Market Leader and Multinational Company – Swiss Company.	Multinational clients and same quality standard perception	Become a Key Global Supplier (KGS), contract all manuf. site	High audit standards related to food health (Government and Customers), high costs for support systems.	
All long processes will be carried out in the same area, so moving costs are cheaper (inbound & outbound cost) become more competitive.	Bringing supply sources closer to customer factory locations	Cheap shipping costs from supplier locations will greatly reduce shipping (trucking) costs. Compared previous by Sea & Air.	Building an expensive WWTP area, before channeling it to the waste line. As well as expensive chemicals that destroy dangerous bacteria.	

Source: PT. ABC, 2023

Table 3, SWOT Analysis

Strength	Weakness	Opportunity	Threat
PT. ABC is well known in the flavor, ingredient, and food technology.	High Batch Size per order, customers level middle-up. While many small players with large orders.	To be the market leader in worldwide for meat savory product after few decades as market leader for flavor & fragrances sector.	High concern about health awareness – back to nature foods in the future.
PT. ABC is a big company and has more than 127 manufacturing site (plant) worldwide.	High handling cost and routine audit for microbiology test.	High demand for savory product and there is no player yet in Asia to complete all the whole chain of meat savory.	Key competitor will invest for the same business or market
PT. ABC is a Key Global Supplier (KGS) for several big company in FMCG industry and OTIF rate above 95%	The price of the RM based on seasonality season, meat and fish is one of the commodities, uncertainty of the RM Cost.	Many factories in various regions will act as representatives to connect potential customers in that country.	Duty rate. In Jan 2024, duty rate for all beverage with high sugar will applied, so the same regulation may happen for meat savory.

Source: PT. ABC, 2023

CAPITAL BUDGETING ANALYSIS

In order to conduct a capital budgeting analysis for any capital expenditure project, it is necessary to forecast key financial and operating variables that will determine cash flows. Additionally, the author gathers expert assumptions to perform a quantitative analysis. The capital budgeting analysis will be used to assess the investment feasibility of PT. ABC's Box Dryer and Dry Blender. The analysis will include calculation for the Payback Period, Return on Investment, Net Present Value, Profitability, and Internal Rate of Return.

Table 4, Forecasting Assumptions

No	Description	Value (KIDR)
1	Total Investment	174,082,020
2	Economic Life	10 Years
3	Source of Investment	100% Direct capital
4	Period of Construction & Commissioning	1.3 Years
5	Corporate Income Tax	22%
6	Expected Commercial Operation Date	Apr-25
7	Selling Price (Increase 3% every year)	300
8	Number of operator	
	Operator for Box Dryer	21
	Operator for Dry Blend	18
9	COGS rate	68%

Source: PT. ABC, 2023

Based on the forecasting assumptions above, PT. ABC will need more than 1.3 years to complete the construction. During the construction, local engineer will work in parallel with potential suppliers for the Box Dryer & Dry Blend machine from the US to develop the Twin Box machine. Upon completion of the construction and handover of the project to operations, the company will conduct the NKV and Kosher certification.

Table 5, Income Statement Forecast

PT ABC Income Statement (In Million IDR)			YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10
SALES QTY	MEAT SAVORY	MT	1,200	1,236	1,273	1,311	1,351	1,391	1,433	1,476	1,520	1,566
Sales Price/KG			300,300	309,309	318,588	328,146	337,990	348,130	358,574	369,331	380,411	391,823
Sales Amount			360,360	382,306	405,588	430,289	456,493	484,294	513,787	545,077	578,272	613,489
COGS			245,045	259,968	275,800	292,596	310,415	329,320	349,375	370,652	393,225	417,172
Gross Margin			115,315	122,338	129,788	137,692	146,078	154,974	164,412	174,425	185,047	196,316
Operating Expenses												
	Personnel Expenses		12,956	13,863	14,834	15,872	16,983	18,172	19,444	20,805	22,262	23,820
	Energy Expenses		12,435	12,808	13,193	13,588	13,996	14,416	14,848	15,294	15,753	16,225
	Prod & Gen Supplies Exp		12,088	12,451	12,824	13,209	13,605	14,013	14,434	14,867	15,313	15,772
	MNT&Spareparts Exp		10,178	10,483	10,798	11,122	11,455	11,799	12,153	12,518	12,893	13,280
	Building MNT Expenses		8,587	8,845	9,110	9,383	9,665	9,955	10,253	10,561	10,878	11,204
	Other Expenses		7,557	7,783	8,017	8,257	8,505	8,760	9,023	9,294	9,572	9,860
Total Operating Expenses			63,802	66,234	68,775	71,432	74,210	77,115	80,156	83,338	86,671	90,161
EBITDA			51,514	56,104	61,013	66,260	71,868	77,859	84,256	91,086	98,376	106,155
Depreciation			14,175	14,175	14,175	14,175	14,175	14,175	14,175	14,175	14,175	14,175
EBIT			37,338	41,929	46,838	52,085	57,693	63,683	70,081	76,911	84,201	91,980
Interest												
CIT		22%	8,214	9,224	10,304	11,459	12,692	14,010	15,418	16,920	18,524	20,236
NET INCOME			29,124	32,704	36,533	40,626	45,000	49,673	54,663	59,991	65,677	71,744

Source: Author, 2023

Table 6, Balance Sheet Forecast

PT. ABC Balance Sheet (In Million IDR)		YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10
Assets											
Cash		57,474	118,529	183,413	252,390	325,741	403,764	486,778	575,119	669,147	769,241
Inventory		73,513	77,990	82,740	87,779	93,125	98,796	104,813	111,196	117,967	125,152
Building & Equipment Net		159,907	145,732	131,556	117,381	103,206	89,031	74,855	60,680	46,505	32,330
Total Assets		290,895	342,251	397,710	457,550	522,071	591,591	666,446	746,995	833,619	926,723
Liabilities & Equity											
Capital Injection		174,082	174,082	174,082	174,082	174,082	174,082	174,082	174,082	174,082	174,082
Retained Earnings		29,124	61,828	98,362	138,988	183,989	233,661	288,324	348,315	413,992	485,736
Trade A/P & Others		87,689	106,341	125,266	144,480	164,001	183,847	204,039	224,598	245,545	266,904
Total Liabilities & Equity		290,895	342,251	397,710	457,550	522,071	591,591	666,446	746,995	833,619	926,723

Source: Author, 2023

Table 7, Cash Flow Forecast

PT ABC Cash Flow (In Million IDR)		YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10
Cash Flow From Operation											
Revenue		360,360	382,306	405,588	430,289	456,493	484,294	513,787	545,077	578,272	613,489
COGS		(245,045)	(259,968)	(275,800)	(292,596)	(310,415)	(329,320)	(349,375)	(370,652)	(393,225)	(417,172)
Operating Expenses		(63,802)	(66,234)	(68,775)	(71,432)	(74,210)	(77,115)	(80,156)	(83,338)	(86,671)	(90,161)
CIT		(8,214)	(9,224)	(10,304)	(11,459)	(12,692)	(14,010)	(15,418)	(16,920)	(18,524)	(20,236)
Depreciation		14,175	14,175	14,175	14,175	14,175	14,175	14,175	14,175	14,175	14,175
Net Cash Fr Operating		57,474	61,055	64,884	68,977	73,351	78,023	83,014	88,341	94,027	100,095

Source: Author, 2023

Table 8, Sensitivity Analysis Forecast

Standard		Projected									
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Cash Flow	(174,082)	57,474	61,055	64,884	68,977	73,351	78,023	83,014	88,341	94,027	100,095
Cumulative Net Cash Flow		(116,608)	(55,553)	9,331	78,308	151,659	229,682	312,696	401,037	495,065	595,159
Positive Cash Flow?		FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
Year Positive CF	3.00	First Year Positive									
Payback Period	2.86	Act Number of Years									
IRR	37%										
Optimistic	Revenue (+10%)	396,396	436,036	466,558	499,217	529,170	555,629	611,192	672,311	739,542	813,496
	COGS	(269,549)	(296,504)	(317,260)	(339,468)	(359,836)	(377,828)	(415,610)	(457,171)	(502,888)	(553,177)
	OPEX (Energy & Supplies +10%)	(63,802)	(67,497)	(70,076)	(76,792)	(79,730)	(82,801)	(86,012)	(89,370)	(92,884)	(96,561)
	Depreciation	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)
	CIT	(10,751)	(12,729)	(14,310)	(15,132)	(16,594)	(17,781)	(20,987)	(24,551)	(28,511)	(32,908)
	Net Profit	38,119	45,130	50,737	53,651	58,835	63,043	74,407	87,043	101,084	116,675
	Net Cash Flow In	66,469	73,481	79,087	82,001	87,185	91,394	102,758	115,394	129,434	145,025
Net Cash Flow	(174,082)	66,469	73,481	79,087	82,001	87,185	91,394	102,758	115,394	129,434	145,025
Cumulative Net Cash Flow		(107,613)	(34,132)	44,955	126,956	214,141	305,535	408,293	523,686	653,120	798,145
Positive Cash Flow?		FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
Year Positive CF	3.00	First Year Positive									
Payback Period	2.43	Act Number of Years									
IRR	44%										
Pessimistic	Revenue (-10%)	324,324	344,075	365,030	387,260	410,844	435,864	462,408	490,569	520,445	552,140
	COGS	(230,270)	(244,293)	(259,171)	(274,954)	(291,699)	(309,464)	(328,310)	(348,304)	(369,516)	(392,019)
	OPEX (Energy & Supplies -10%)	(66,254)	(68,760)	(71,377)	(74,112)	(76,970)	(79,958)	(83,084)	(86,354)	(89,777)	(93,361)
	Depreciation	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)	(14,175)
	CIT	(2,997)	(3,706)	(4,467)	(5,284)	(6,160)	(7,099)	(8,105)	(9,182)	(10,335)	(11,569)
	Net Profit	10,627	13,141	15,839	18,734	21,840	25,168	28,735	32,554	36,642	41,016
	Net Cash Flow In	38,978	41,491	44,189	47,085	50,190	53,519	57,085	60,904	64,992	69,366
Net Cash Flow	(174,082)	38,978	41,491	44,189	47,085	50,190	53,519	57,085	60,904	64,992	69,366
Cumulative Net Cash Flow		(135,104)	(93,613)	(49,424)	(2,339)	47,851	101,370	158,455	219,359	284,351	353,718
Positive Cash Flow?		FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
Year Positive CF	5.00	First Year Positive									
Payback Period	4.05	Act Number of Years									
IRR	24%										

Source: Author, 2023

Table 9, Financial Summary Result Forecast

Result	IDR	PROJECT	PROJECT	PROJECT
		Standard	Optimistic	Pessimistic
Total Cash Out	IDR	174,082		
NPV	IDR	251,229	350,539	122,172
ROCI	%	258%	458%	203%
WACC	%	10%	10%	10%
PAYBACK (disc)	Years	2.86	2.43	4.05
IRR	%	37%	44%	24%

Source: Author, 2023

NON-MONETARY ANALYSIS

PT. ABC has conducted careful studies and plans to build the new facilities in Indonesia for Box Dryer and Dry Blend machine. The top management has recognized the significance of this project in contributing to the current global strategy, with direct impacts on various parties, and environment. The realization of this project will directly contribute to Decent Work and Economic Growth (No 8) for the Indonesian people including potential employees, and for the Republic of Indonesia. PT. ABC is the first single player in Asia, with its supply source coming from Indonesia to all countries in the Asia Pacific. Gender Equality (No 5), is also a focus for PT. ABC, with equal opportunities for both men and women to contribute to the company. Each department has almost an equal number of men and women.

Furthermore this project will have a direct impact on the environment. Indonesia currently imports Meat Powder and Meat Savory from America in large quantities, with 2 to 3 shipments every month. By localizing all processes, there will be a significant positive impact on local farmers, livestock breeders and traders. Providing them with a new market that will absorb their products in large and sustainable quantities. The Global Sustainability and Green Energy department, has calculated a significant reduction in CO2 emissions as a result of this localization as the current process in the USA involves electricity, shipping by ship and trucks from the port to the factory. Figure 4.4 below illustrates the calculation carried out by the Global Sustainability and Green Energy department.

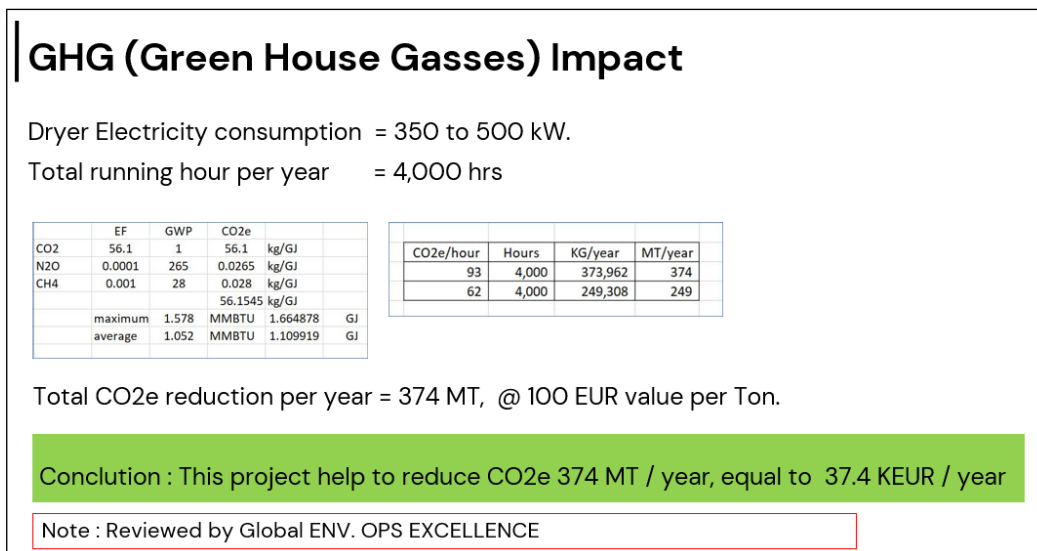


Figure 8, CO2 Reduction Report
Source: PT ABC, 2023

CONCLUSION AND RECOMMENDATION

The first research objective was determine the feasibility of investing in the Box Dryer and Dry Blend machine in Indonesia based on SWOT & Five Porter Forces Analysis. The analysis indicated that this investment would have a positive impact on PT. ABC, including reducing lead time, lowering manufacturing costs, resolving quality issues, meet OTIF, and becoming the first pioneer in Asia Pacific to complete the entire supply chain of meat savory.

The second research objective was to assess the feasibility of the Box Dryer and Dry Blend project using the capital budgeting method. After collecting data and forecasts from management, calculations were performed for three scenarios (Standard, Optimistic, and Pessimistic). The results showed that the project is feasible to build, with payback period of 2.86 years for the standard scenario, 2.43 years for the optimistic scenario, and 4.05 year for the pessimistic scenario. The Net Present Value (NPV) also indicated positive results, with 251.2 BIDR for the standard scenario, 350.5 BIDR for the optimistic scenario, and 122.1 BIDR for the pessimistic scenario. The Internal Rate of Return (IRR) percentages were 37% for the standard, 44% for the optimistic, and 24% for the pessimistic scenario.

The third research objective was to analyze the market sensitivity of meat savory sales using the Sensitivity Analysis method. The NPV remained positive amount at IDR 251.2 billion for the standard scenario, IDR 350.5 billion for the optimistic scenario, and IDR 122.1 billion for the pessimistic scenario. The simulation for the standard scenario was based on original forecast and all operating expenses, while the optimistic scenario assumed a 10% increase in sales and lower costs due to efficiency and effectiveness. In contrast, the pessimistic scenario assumed a 10% decrease in sales and increased operating expenses due to high prod.cost and other supplies.

The final research objective was to analyze and measure the impact of the Box Dryer and Dry Blender project on supporting the Sustainable Development Goals for PT. ABC. The results showed that the project would contribute significantly to several goals, including Gender Equality, Decent Work and Economic Growth, Industry, Innovation, and Infrastructure, Climate Action, Life Below Water, Life on Land.

Overall, the research indicates that investing in Box Dryer and Dry Blend machine would be beneficial for PT. ABC, as evidenced by the positive financial report forecast and market scenario.

In terms of theoretical implications, the outcomes of this study backed up previous research on the Strategic Analysis Theory of Five Porter Forces and SWOT Analysis, Capital Budgeting Analysis, and Sensitivity Analysis using Monte Carlo Simulation. This research conducts an analysis of Capital Investment decisions for companies that meat powder and meat savory and combine the analysis.

This research was combining mixed method which combining strategic, capital budgeting, sensitivity, and non-monetary analysis which should be a thorough consideration for Management when planning to do capital investment. This will give positive assurance for the management of PT. ABC to proceed with the project for phase two (2) to build new facilities – Box Dryer and Dry Blend machine.

This study also gives insight to PT. ABC to continuously improve its company due to this company being the only one in ASIA will produced Meat Powder and Meat Savory in one area (one stop service area) from Meat Paste until Meat Savory This will be

a big step and a real manifestation of PT. ABC to provide differences in terms of service and quality to all its stakeholders. In terms of triple bottom of Accounting, PT. ABC has fulfilled all criteria in Economic, Environment, and Social

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