

# Capital Budgeting and Feasibility Waste Filtering Analysis in SMEs of the Tofu Company in Sumedang Indonesia

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**Abstract:** *This study aims to identify and assess the feasibility of fixed asset investment in buildings and machinery business of the Tofu Sumedang H. Ateng using the method capital budgeting and to find out investment plans for fixed assets of buildings and waste screening machines. The methodology used is descriptive analysis. The results of the study are the feasibility of investing in fixed assets of buildings and machinery in the Tofu Sumedang H. Ateng business by using the method capital budgeting is feasible. By converting tofu liquid waste into biogas, tofu factory owners not only contribute to protecting the environment but also increase their income by reducing fuel consumption in the tofu making process.*

**Keywords:** Tofu, Capital Budgeting, Waste, Fixed Assets

## 1. Introduction

Industry is one area of the economy that promises success. In fact, one of the benchmarks of a country is said to be developed is if the livelihoods of its inhabitants who were originally in agriculture can switch to industry. There are so many kinds of industries in the world, there are food industries, textile industries, electronic manufacturing industries, transportation equipment manufacturing industries, to making heavy equipment.

Existing industries can also be small, medium or large scale. Each scale of the industry has its own waste. There are already quite a lot of environmental pollution problems in various places in Indonesia caused by some factories not having adequate buildings to treat waste or the absence of machines that can support waste management from the factory. The role of managers in determining the management of waste is crucial to the sustainability of factory activities. When waste management is done ineffectively by a factory, there will be things that can make the environment unclean and can cause the community in the environment around the plant to be exposed to factory wastes, which can lead to various diseases. By not organizing waste management in a factory, this can cause the local government to revoke the company's permission to operate.

At present, small-scale businesses with limited business capital have sprung up in Indonesia. Where small-scale business is often a family hereditary company and usually human resources who become workers with relatively low education, so workers do not really understand how to manage waste properly and correctly. Addition of fixed assets in the form of building expansion and the addition of waste management machines is needed for a company so that the waste produced by the factory, does not have a negative impact on the surrounding environment.

Tofu is one of the traditional foods that are commonly consumed by the people of Indonesia. Tofu is also one type

of food source of protein with the basic ingredients of soybeans which is very popular with the people of Indonesia. Most of the tofu products in Indonesia are produced by small scale industries, which are mostly found in Java. The industry is growing rapidly along with an increase in population in Indonesia. However, on the other hand, this tofu industry also produces liquid waste that has the potential to pollute the environment.

Sumedang Tofu Business H. Ateng is an industrial company with Sumedang tofu production business. In running its business, Tofu Sumedang H. Ateng has manufactured its products to meet market demand. Over time, branches of each of the Sumedang H. Aeng Tofu businesses are scattered in several places such as in the Sumedang area of Jatinangor and Bandung. At the branch in Jatinangor, it is spread into three different points of sale. In each branch, the demand for tofu products is relatively increasing every week. Especially on Saturdays and Sundays, where many buyers come from outside the area, which causes companies to produce more tofu on Saturdays and Sundays than usual days.

Tofu production that increases every week also results in an increase in the yield of waste in every tofu production takes place. However, due to limitations of buildings and waste filtering machines in the factory, resulting in the existing tofu waste, dumped in the river around the factory. This results in a lot of impurities from factory wastes that pool in the river and make the river water dirty.

Based on two obstacles that are being faced by the business of Tofu Sumedang H. Ateng currently, the company owner plans to make a fixed asset investment plan in the form of adding factory buildings and waste filtering machines. Through the investment plan, the addition of buildings is expected to make the factory area wider and thus be able to add better waste filtering machines in order to preserve the environment around the factory.

For the sake of achieving accuracy in decision making, the investment plan needs to be carried out a good analysis and calculation using analysis techniques *capital budgeting*.

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## 2. Objective of the Research

This study aims to determine and assess the feasibility of investment in fixed assets of buildings and machinery in the Tofu Sumedang H.Ateng business by using the method *capital budgeting* and to find out the investment plan of the fixed assets of the building and waste filtering machines in the Tofu Sumedang H.Ateng business is feasible or not feasible to be carried out

## 3. Methodology

This research uses descriptive analysis. The data used are data from the H. Ateng Tofu Factory in Sumedang, West Java, Indonesia.

## 4. Discussion

"For companies, investment has the understanding as a decision (*commitment*) taken by management to allocate company resources based on considerations that are in line with long-term goals (management policies) with the aim of maximizing the value or wealth of the company in the future (Kuswandi, 2007: 6).

Theory	Implication
<b>FIXED ASSETS</b> "investment in fixed assets is a form of investment in the hope that the company can generate profits through its operations". Allocating company funds to the company's fixed assets requires proper investment planning. Manulang (2005: 89)	
"Fixed assets are assets that are long-term or relatively permanent in nature and can be used in the long term." Some of the company's fixed assets include buildings, vehicles, production machinery and others. The existence of fixed assets in a company becomes a very important supporting facility. If the amount of fixed assets in a company is inadequate, then it can result in obstruction of the production process. So that the process of achieving maximum profit can be interrupted. Increasing the amount of fixed assets or investment in fixed assets is a long-term plan that is able to be one alternative to improve the production process. Reeve et al (2012: 2):	buildings, vehicles, production machines
<i>capital budgeting</i> are the whole process of gathering, evaluating, selecting and determining investment alternatives that will provide income for the company for a period of more than one year ( <i>capital expenditure</i> ). For companies, capital budgeting analysis has a very important meaning because investment for investment needs in fixed assets generally requires substantial funds. The large amount of funds may not be obtained in a short period of time, therefore careful and careful planning is needed beforehand. Syamsuddin (2009: 412)	
<b>CAPITAL BUDGETING</b> An investment proposal will be assessed by several methods. The method is used to measure whether the investment will be profitable or not. Some of these methods include Average After Tax Return (Average Rate of Return), Payback Period, Net Present Value (NPV), Benefit Cost Ratio (B / C Ratio), and Internal Rate of Return (IRR) . Some of the above techniques are techniques that are commonly used in analysis <i>capital budgeting</i> . Moeljadi (2006: 127)	NPV = Rp. 12,300,000 / YearRp. 1,200,000 PP = 1,4 years B / C Ratio = IRR = 2.3%  The company's business results are FEASIBLE!
<b>FACTORY WASTE</b> <b>Various Types of Industrial</b> Waste 1. Liquid waste 2. Solid waste 3. waste	
<b>WASTE IMPACT</b> Pollution is an event that can harm living things. There are a lot of impacts that can be caused by this factory waste pollution. These impacts are of course a bad impact. As for the impacts that can arise because of the pollution of this factory waste, among others are as follows: 1. Impacts on health The health impacts arising from this factory waste include the following: <ol style="list-style-type: none"> <li>Causing the presence of toxic waste.</li> <li>Arise of infectious diseases from the food chain</li> <li>emergence of fungal diseases.</li> <li>Causes cholera, diarrhea and typhus.</li> <li>Garbage that can cause diseases associated with mice.</li> <li>Garbage arises which will become a breeding ground for flies so it is easy to transmit infection.</li> </ol> 2. Impact on the environment In addition to having an impact on health, the presence of factory waste can also cause adverse impacts on the environment. As for some of the negative impacts caused by factory waste for the environment include the following: <ol style="list-style-type: none"> <li>Declining environmental quality</li> <li>Decreasing the aesthetic or value of environmental beauty</li> </ol>	Basically, the tofu production process produces two kinds of waste, namely solid waste and liquid waste. Solid waste is generally used as animal feed. The tofu industry needs water to do the sorting, soaking, peeling, washing, milling, boiling, and filtering processes. Then, the wastewater from the process is called liquid waste. This tofu industry wastewater has a very high content of organic compounds. Without a good handling process, tofu waste can cause various negative impacts such as water pollution, sources of disease, unpleasant odors, increase mosquito growth, and reduce the aesthetics of the surrounding environment.  Liquid waste that is discharged into the waters without prior neglect can also result in the death of living things in water including microorganisms (microorganisms) which play an important role in regulating biological balance in

- c. Inhibited development of the country
- d. Making the environment less comfortable to be occupied
- e. Making living beings affected by pollution become destroyed or die.

water. Tofu industry wastewater contains BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), TSS, and oils / fats respectively at 4583, 7050, 4743 and 26 mg / l.

There are several aspects of project feasibility studies that need to be considered in conducting investment planning. According to Suratman (2009: 2) "in general aspects that will be studied in the feasibility study include: legal aspects, social and economic aspects, market and marketing aspects, technical and technological aspects, management aspects, and financial aspects".

<p>Legal Aspects of Intangible Assets or intangible assets such as:</p> <ul style="list-style-type: none"> <li>a) Good will, more value owned by the company due to certain privileges.</li> <li>b) Patent Rights, are the sole rights granted by a government to a person or entity due to certain inventions.</li> <li>c) Copyright, is a single right granted by the government to a person or entity due to the existence of works of art or writing or also intellectual work.</li> <li>d) Trademark, is the right granted by the government to a body to be able to use the name and symbol for its business.</li> <li>e) Lease Right, is the right to be able to use the fixed assets of another party for a long time in accordance with the previous agreement.</li> <li>f) Franchise, is a privilege received by someone or also an entity from another party to be able to commercialize certain formulas, techniques, or products.</li> </ul>	<p>The H. Ateng Tofu Company has legal requirements:</p> <ul style="list-style-type: none"> <li>1) Halal Certificate</li> <li>2) of Patent</li> <li>3) Trademark</li> <li>4) Right to Rent</li> </ul>
<p>Social and Economic Aspects Socially</p>	<p>The community has accepted the H. Ateng Tofu company for involving the community for years.</p>
<p>Management Aspect</p> <p>According to PSAK no 16.2 in (Sundjaja, 2003: 82) "fixed assets are tangible assets that are obtained in the form of ready-to-use or to be built in advance, which are used in company operations, are not intended to be sold in the framework of normal company activities and have the useful life is more than one year ". Meanwhile according to Soemarmo (2003: 20) "fixed assets are tangible fixed assets whose useful life is more than one year used in company activities, owned or not for resale in normal company activities and the value is quite large".</p>	
<p>Financial Aspects The purpose of conducting a project feasibility study is to avoid the excess of investment that is too large for activities that are not profitable (Husnan and Suwarsono, 2005: 6-7). There are five objectives why before a business or project is carried out it is necessary to conduct a feasibility study (Kasmir and Jakfar, 2004: 19-21):</p> <ul style="list-style-type: none"> <li>a. Avoiding the risk of loss</li> </ul> <p>In this case the function of the feasibility study is to minimize the risks that we do not want, both risks that can be controlled or that cannot be controlled.</p> <ul style="list-style-type: none"> <li>b. Facilitate planning</li> </ul> <p>Planning includes how much funding is needed, when the business or project will be run, where the project location will be built, who will carry it out, how to run it, how much profit will be obtained and how to monitor it if deviations occur.</p> <ul style="list-style-type: none"> <li>c. Facilitate the implementation of work</li> </ul> <p>With the various plans that have been prepared will greatly facilitate the implementation of business. The executors who run the business already have guidelines that must be followed, then systematic work, so that it is right on target and in accordance with the plans that have been prepared.</p> <ul style="list-style-type: none"> <li>d. Facilitate supervision</li> </ul> <p>With the implementation of a business or project in accordance with the plans that have been prepared, it will facilitate the company to conduct supervision of the business. This supervision needs to be done so that the implementation of the business does not deviate from the plans that have been prepared.</p> <ul style="list-style-type: none"> <li>e. Facilitate control</li> </ul> <p>The purpose of control is to control the execution of work not deviating from the actual rail, so that in the end the company's goals will be achieved.</p>	<p>The financial aspects of the Tofu H. Ateng dominant company for controlling aspects</p>

## 5. Conclusions and Suggestions

- 1) The feasibility of investing in building and machinery fixed assets in the Tofu Sumedang business. Ateng using the method *capital budgeting* is feasible.
- 2) By converting tofu liquid waste into biogas, tofu factory owners not only contribute to protecting the environment but also increase their income by reducing fuel consumption in the tofu making process. In addition, the tofu industry waste can still be used again in a variety of

beneficial forms. For example, the use of tofu liquid waste becomes nata de soya and shredded which is a form of diversification of food made from tofu waste.

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