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Feasibility Study of Hospital with a Capital Budgeting Approach

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Abstract:- This study aims to analyze the feasibility of establishing a government hospital in Bone Regency, South Sulawesi Province. To achieve these objectives, data collection techniques are carried out through observation, interviews and documentation. While the data analysis technique uses cash flow, accounting rate of return, payback period, net present value, internal rate of return, present value and net cash inflow. The results of the investment feasibility study can be seen from the Net Present Value (NPV), where the Net Present Value is greater than the expected rate of return, it can be said that the investment in establishing a public hospital in Mappesangka Village, Ponre Subdistrict, Bone Regency is feasible. The results of the analysis of the Internal Rate of Return (IRR) of 11.76%> 10%, this means it can be said that the investment in the establishment of the General Hospital of Mappesangka Village, Ponre Subdistrict of Bone Regency is feasible. The results of the Average Rate of Return (ARR) analysis are more greater than 10% (20.40%> 10%) and besides that the Profitability Index (PI) is greater than 1, it can be said that the investment in the establishment of the General Hospital of Mappesangka Village, Ponre Subdistrict, Bone Regency is feasible.

Keywords:- *Net Present Value* (NPV), *Internal Rate of Return* (IRR), *Average Rate of Return* (ARR), *Profitability Index* (PI).

I. INTRODUCTION

Nowadays the need for health facilities (hospitals) in Indonesia is increasing every year. This is supported by an increase in population with an uneven distribution of population, that is, the population is only concentrated in urban areas, resulting in the level of income of the population of the region experiencing a significant difference between the middle and lower classes. As a result the community cannot enjoy good health facilities, including the availability of health facilities (hospitals).

Bone Regency with an area of 4,559 km ² with a population of 2017 in 863,654 inhabitants which includes 422,818 inhabitants of the male population and 441,236 inhabitants of the female population. Meanwhile the magnitude of the sex ratio in 2017 for men to women is 91.52. Meanwhile, the population density in Bone Regency in 2017 reached 165 people / km2.In Makassar city, taxpayers registered in the Directorate General of Taxation Regional Office of South Sulawesi, West Sulawesi and Southeast Sulawesi amounted to 1.86 million which is divided into taxpayer as much as 163 thousand, and the individual taxpayer amounting to 1,697 million taxpayer where Then the growth in the number of population, whose level of income varies and the development of more and more types of diseases, the more collective the community in choosing the desired health facility (hospital). Hospital existence is very vital in the midst of increasing population. The hospital is a long-term investment with business potential that can still be developed to the maximum.

The needs and demands of the community for optimal health services from hospitals tend to continue to increase. This phenomenon demands that the hospital as one of the providers of health services, whether organized by the private sector or the government, should be able to continue to develop or improve the quality of its services, even the convenience of the public in accessing facilities and health workers who also influence.

The problem of health services in Bone Regency, where hospitals were established to provide health services to the surrounding community. Responding to the demands of the community for optimal health services, the government needs to improve health services by developing better hospitals. In developing a hospital it is necessary to have a hospital feasibility, this is intended to determine whether or not a hospital is established in Bone Regency.

Business feasibility study which is an activity that studies in depth about a business that will be run in order to determine the feasibility or not the establishment of the business. Feasibility means that research carried out in depth to determine the businesses that will be run will provide greater benefits compared to the costs to be incurred (Kasmir and Jakfar, 2017: 5). From the opinion expressed by Kasmir and Jakfar, in this study a hospital feasibility study will be conducted which is basically a study that will examine the needs and expectations of the community for better health care facilities especially hospitals and with the feasibility study in this study used to provide an assessment of the expectations of a recommendation whether or not the development / establishment of a hospital is feasible.

The purpose of this study is the analysis of the feasibility of the hospital that is with this research is expected to be used as a material assessment recommendations in the form of whether or not a hospital is

established or not. In conducting a hospital feasibility analysis in this study, the analysis approach used is capital budgeting. Capital budgeting in business feasibility studies is an important part, according to Utari, et.al. (2014: 169) capital budgeting is current cash disbursements to obtain cash inflows in the future from every business actor must have professional management in making capital budgeting for long-term investments that are full of uncertain results. Capital budgeting is very important because the managed plan will be implemented for a long period of time which means that the business actor must wait for a long time to come or for a long time until all the embedded funds are recovered so that it will affect the providers of funds for other purposes (Riyanto, 2016: 121).

Analysis that can be used to assess the investment feasibility of a hospital is capital budgeting, and an assessment of the worthiness of an investment decision using the payback period (PP) method, net present value and internal rate of return. In assessing the feasibility of investment with capital budgeting in this study because of a review of previous studies found a research gap. This can be seen from research conducted by Ratnayanti, et.al. (2006) who found that the feasibility of the hospital carried out was the construction of a hospital is a worthy investment, while Irwansyah (2016) found that the feasibility of establishing a hospital was categorized as feasible. In contrast to research conducted by Ekel (2014) which found that the feasibility of establishing a hospital was not feasible. This is what underlies researchers will conduct a hospital feasibility analysis due to differences in research conducted by previous researchers. The novelty in this study when compared with previous studies, where research conducted by researchers conducted an investment feasibility analysis using the capital budgeting model. Where in the capital budgeting model because decisions in the field of capital budgeting have a great influence on the development of the hospital in the future.

II. LITERATURE REVIEW

A. Stewardship Theory

This theory is based on considerations related to manager's motivation. An executive manager in this theory is considered not as an opportunistic party, which in essence they only do a good job to be a good steward for all assets owned by the company. Stewardship theory is built on philosophical assumptions about human nature namely that humans are essentially trustworthy, able to act responsibly, have integrity and honesty with others. This is what is implied in the relationship desired by the shareholders. In other words, stewardship theory sees management as trustworthy to act in the best way for the public and stakeholder interests.

The relation of the stewardship theory in this study is that stewards describe the situation of leaders not motivated by individual goals, but are more motivated at the main target for the benefit of the organization so that stewards will act well in accordance with the wishes of the Principal (Bernstein et al., 2016) As a government steward will strive for government spending efficiently and accountably, so that the State finances are well managed, so that it can achieve the objectives of the government in order to improve the integrity of public services through the management of state finances in accordance with applicable regulations.

Furthermore, Gudono (2015: 146) states that stewardship theory is a relatively new theory compared to agency theory. Gudono also explained the difference between the two theories. Both of these theories are equally discussing the issue of governance of the mandate given by principals to agents, but both differ greatly in terms of the assumptions of the model of man (especially regarding agents) they use. The model of man underlying agency theory is an agent that is more selfish and always tries to maximize his personal profit

Related to the above, the central theme of agency theory is a conflict of interest between shareholders and managers. The manager does not want to know in considering the pros and cons of working for his principal interests. Instead the model of man in management theory is an actor who has intrinsic motivation to move forward. Manager management theory might do activities that are not or less rewarding because stewards feel the job has become their job.

The fundamental problem in stewardship theory is how to create an organizational structure that can help managers to make decisions and choices of actions to optimize government performance. This is because in management theory there are no inherent problems related to work motivation or conflicts of interest between the government (steward) and the people (principal)

B. Business Feasibility Study

A business feasibility study is a study of a business plan that not only analyzes the feasibility of a business being built, but also when it is routinely operationalized in order to achieve maximum profits for an unspecified period of time.

Thus, feasibility studies are also often equated with Feasible Study because it is an ingredient in considering and making decisions, whether a business or business idea that has been planned will be implemented or rejected. Understanding of worth is where a business or business idea can provide a benefit. Aspects that generally need to be assessed in the preparation of feasibility studies include: market and marketing aspects, technical aspects, management aspects, environmental aspects, financial aspects, and legal aspects.

Thus, projects or business ideas that are declared economically feasible, in their implementation are very rare to fail unless caused by factors that cannot be controlled such as: fires, earthquakes, floods, and various other natural disasters that cannot be controlled by humans. This feasibility study is a guideline, both in starting a production plan up to determine the workforce needed. Like a business or business idea in a feasibility study only applies if the business carried out in accordance with those set forth in the

feasibility study and there is no guarantee that business activities will benefit business activities that are not in accordance with the planned activities that have been determined in the feasibility study.

Business feasibility study is a research that must be done before running a business or project. This is done to reduce the threat of loss that will be received by business people. Feasibility study can be said as a planning (planning) before the realization of an event or performance. Feasibility study as a knowledge certainly has a purpose that must be known by its users. No need to linger, here are some of the objectives of the feasibility study seen from the opinion of Kasmir & Jakfar (2017: 13), there are five objectives of the business feasibility study, namely:

- *Avoid the risk of loss.*

To overcome the risk of loss in the future, because in the future there is a kind of uncertainty condition. This condition exists which can be predicted to occur or indeed will naturally occur without being predictable. 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.

- *Facilitate planning.*

Planning includes how much funding is needed, when the business will be run, where the project location will be built, who will carry it out, how much profit will be obtained and how to monitor if deviations occur.

- *Facilitate the implementation of work.*

With the various plans that have been prepared will greatly facilitate the implementation of business. The executors who work on the business already have guidelines that must be done. Then the work can be done systematically, so that it is right on target and in accordance with the plans that have been prepared. The plan that has been prepared is used as a reference in working on each of the planned stages.

- *Facilitate supervision.*

With the implementation of a business or project in accordance with the plans that have been prepared, it will be easier for companies to conduct oversight 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.

- *Easy control.*

If the work has been carried out in supervision, then if a deviation occurs it will be easily detected, so that control will be made to the deviation. The purpose of control is to restore the implementation of work that deviates to the actual rail, so that ultimately the company's goals will be achieved.

Thus, some good objectives of the feasibility study are mandatory. It never hurts to be on guard, because what is run involves a lot of capital. Not only financially, also mentally. It's good, know the battle ground first and then fight there with other fighters.

C. Investment

Every company that will work on a project, must first examine the proposed project. The most profitable project proposal is the goal of all companies, to find out whether the project is profitable or feasible, the company must conduct an analysis of the feasibility of the project using one of the techniques in financial management. capital budgeting is a method in financial management to analyze the feasibility of a project.

Investment is giving something to be invested in order to produce something. An investment is needed for guarding activities in the face of something unexpected, and can also be to meet the necessities of life, to obtain an investment it requires a capital, capital here can be in the form of money, and motivation or enthusiasm, therefore an investment can not be separated from a business activity and is the main aspect for the birth of a prospective business.

The same understanding put forward by Harjito (2015: 138) states that judging from the time period, investment is divided into 3 types, namely short-term investment, medium-term investment and long-term investment. Viewed from the type of investment, investment is divided into 2 types, namely investment in real assets and investment in non-real assets. Investment in real assets such as investment in land, buildings, machinery and equipment. Whereas investment in non-real assets such as investment in securities.

One function of financial management is investment. Investment according to the Indonesian Institute of Accountancy (2018) in the Statement of Accounting Standards (PSAK) is: "An asset that is used by companies for growth of wealth (Accretion of wealth) through the distribution of investment returns (such as interest, royalties, dividends and rent), for appreciation the value of the investment or for other benefits for the investing company such as the benefits obtained through trade relations ".

D. Investment Feasibility Study

Horngren (2014: 204) provides a definition of investment feasibility, stating that in making long-term investment decision making in accordance with planning.

Understanding the feasibility of investment according to the author is the whole process in planning and decision making for the expenditure of funds for investment in which the return period of the fund exceeds one year. This has a very important meaning for the continuation of a company's life (sustainability). The funds spent will be bound for quite a long time, meaning that the company must wait several years until all the funds invested can be recovered. This affects the need for funds for other needs.

The decision to invest capital, the most important thing in deciding the steps that must be taken by investors, is how to allocate funds with no high risk. So the feasibility of

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investment made by company management is the allocation of capital to an investment proposal where the benefits or benefits that have been obtained have been previously considered for the future, because the benefits or benefits to be obtained by the company are not known with certainty, which means the proposal or plan investment contains elements of risk.

E. Capital Budgeting

According to Brigham and Daves (2012: 397) what is meant by Capital Budgeting is the decision making process used by managers to identify all projects that add value to the company. Capital budgeting also decides the company's strategic direction because it involves new products, services and markets that will be achieved by providing or issuing capital. In addition, the results of capital budgeting are long-term decisions, inflexible and in poor capital budgeting planning can have financial consequences. Hospitals that make a lot of investment can lead to excess capacity and spend investor capital on the other hand, if the hospital does not make investments, the existing equipment cannot produce optimally.

In calculating the cost of capital very many methods can be done. Brigham and Daves (2012: 400-416) grouped 7 main methods that are often used to sort and decide whether the project was accepted and implemented. The seven things are: 1) Payback, 2) Discounted Payback, 3) Net Present Value (NPV), 4) Internal Rate of Return (IRR), 5) Modified Internal Rate of Return (MIRR), 6) Profitability Index (PI)), 7) Accounting Rate Of Return (ARR). For the seventh method, ARR, according to Brigham and Daves (2012: 400) it should not be used as part of assessing the feasibility of a project.

1. Payback and discounted payback shows the time of return, the level of risk and liquidity of a project. Short payback time means the project is good to carry out, and long payback time means that the investment will be closed for a long time and the project is relatively illiquid.
2. Net Present Value (NPV) is a calculation of the difference between the present value and the values in the future that are accepted today.
3. The Internal Rate of Return (IRR) is defined as the discount rate when the NPV is equal to zero with the discount rate as a percentage. Modified Internal Rate of Return (MIRR) is almost the same as IRR, but in MIRR it is assumed that the cash flow of all projects is reinvested at the cost of capital, whereas at IRR it is assumed that the cash flow of each project reinvested in the IRR project itself .
4. Profitability Index (PI) shows the relative profitability of each project.
5. Accounting Rate of Return (ARR) measures net income from investments and is expressed as a percentage. The time value of money in the ARR measurement is not considered, so it can be wrong in decision making.

III. RESEARCH METHODS

To be more directed towards this writing, the researchers provide several definitions of the studied variables, as follows:

1. Cash flow is cash flow or cash flow in the Bone Regency Government hospital in a certain period.
2. Accounting Rate of Return or often abbreviated as ARR is an analytical method that measures the level of profitability of an investment.

$$ARR = \frac{\text{Average Net Revenue from Investment}}{\text{Average Investment Cost}}$$

3. Payback Period is a method to find out how long the time period required to return funds invested in a project (Syahyuna 2014: 165). The formula for calculating the payback period:

$$PP = \frac{\text{Investation}}{\text{Net cash / year}} \text{ X 1 year}$$

4. The net present value (NPV) method

According to Husnan and Suwarsono (2014: 209), net present value is this method of calculating the difference between the present value of investment and the present value of net cash receipts (operational or terminal cash flow) in the future. With the formula:

$$\text{Net Present Value} = \frac{\text{PV Proceed}}{\text{PV Outlay}} \text{ X 100\%}$$

5. Internal rate of return (IRR) method

According to Riyanto (2014: 129), it is defined as the interest rate that will make the total present value of the proceeds expected to be received (PV of future proceeds) equal to the total present value of capital outlays. The formula used is:

$$IRR = rr \frac{\text{NPV rr}}{\text{TPV rr - TPV rt}} + x\ (rt - rr)$$

6. Profitability index (PI) method

According to Husnan and Suwarsono (2014: 211), profitability index is a method of calculating the comparison between the present value of net cash receipts in the future with the present value of investment. Formula used:

$$\text{Profitability Index} = \frac{\text{PV of Benefit}}{\text{PV of capital cost}}$$

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IV. RESULTS & DISCUSSION

The purpose of building a Public Hospital across the border of Bone Regency, Sinjai Regency and Soppeng Regency is to bring service access closer, so that all people who are across the border can be referred directly at the Hospital, without the need to go to the parent hospital, so that in facing the increasing challenges of public health services that expect fast, convenient, efficient and effective services, it is necessary to conduct a study to assess the feasibility of the hospital development plan. the planned land area is 4.8 Ha.

Based on the description of the location of the establishment of the Hospital in Mappesangka Village in Ponre District, it is necessary to analyze the feasibility study of the establishment of the hospital. Where in the analysis phase of the feasibility study the establishment of a hospital is described as follows:

- *Analysis of investment fund requirements*

Based on data on the level of investment funding needs of the Mappesangka village General Hospital, Ponre Subdistrict in Bone Regency for 2019 which can be presented through the following table:

No.	type of investment	Value of Funds Investment (Rp)
1	Land purchase costs	2.500.000.000
2	Hospital building construction costs	117.500.000.000
3	Costs for procurement of medical equipment and hospital supplies:	
	a. Medical equipment costs	120.000.000.000
	b. Cost of hospital mobile equipment	5.000.000.000
	c. Admission costs and management	5.000.000.000
	Amount (a+b+c)	130.000.000.000
	Total investment fund requirements (1+2+3)	250.000.000.000

Table 1:- Level of Investment Funds Requirement
Source: Secondary data, 2019

After an analysis of the level of investment fund requirements in the establishment of the Mappesangka General Hospital, Ponre District, Bone Regency, the amount of investment funds needed to establish a General Hospital is Rp. 250 billion. While the results of observations, especially on the management of the establishment of the General Hospital of Mappesangka Village, Ponre Subdistrict in Bone Regency, that the source of funding is the allocation of the Regional Budget in stages, namely the first stage of Rp. 140 billion and the second phase is IDR 110 billion.

Mappesangka Village, Ponre District in Bone Regency (2021-2040)
(assumption that hospital Income from each service is projected to increase by 8% for each year)

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Year	Hospital Income estimation			Hospital Total Income	Income Business Support	Others Income	Total Estimated Income
	General	BPJS	Coorporated				
2021	5.084.959.600	20.339.838.400	4.704.337.870	30.129.135.870	22.596.851.903	1.129.842.595	53.855.830.368
2022	5.491.756.368	21.967.025.472	5.080.684.900	32.539.466.740	24.404.600.055	1.220.230.003	58.164.296.797
2023	5.931.096.877	23.724.387.510	5.487.139.692	35.142.624.079	26.356.968.060	1.317.848.403	62.817.440.541
2024	6.405.584.628	25.622.338.511	5.926.110.867	37.954.034.005	28.465.525.504	1.423.276.275	67.842.835.785
2025	6.918.031.398	27.672.125.591	6.400.199.736	40.990.356.725	30.742.767.545	1.537.138.377	73.270.262.647
2026	7.471.473.910	29.885.895.639	6.912.215.715	44.269.585.264	33.202.188.948	1.660.109.447	79.131.883.659
2027	8.069.191.822	32.276.767.290	7.465.192.972	47.811.152.085	35.858.364.064	1.792.918.203	85.462.434.352
2028	8.714.727.168	34.858.908.673	8.062.408.410	51.636.044.251	38.727.033.189	1.936.351.659	92.299.429.100
2029	9.411.905.342	37.647.621.367	8.707.401.083	55.766.927.791	41.825.195.845	2.091.259.792	99.683.383.428
2030	10.164.857.769	40.659.431.076	9.403.993.170	60.228.282.015	45.171.211.512	2.258.560.575	107.658.054.102
2031	10.978.046.391	43.912.185.562	10.156.312.623	65.046.544.576	48.784.908.433	2.439.245.421	116.270.698.430
2032	11.856.290.102	47.425.160.407	10.968.817.633	70.250.268.142	52.687.701.108	2.634.385.055	125.572.354.305
2033	12.804.793.310	51.219.173.240	11.846.323.044	75.870.289.593	56.902.717.196	2.845.135.859	135.618.142.649
2034	13.829.176.775	55.316.707.099	12.794.028.887	81.939.912.761	61.454.934.572	3.072.746.728	146.467.594.061
2035	14.935.510.917	59.742.043.667	13.817.551.198	88.495.105.782	66.371.329.338	3.318.566.466	158.185.001.586
2036	16.130.351.790	64.521.407.160	14.922.955.294	95.574.714.244	71.681.035.685	3.584.051.784	170.839.801.713
2037	17.420.779.933	69.683.119.733	16.116.791.717	103.220.691.384	77.415.518.540	3.870.775.926	184.506.985.850
2038	18.814.442.328	75.257.769.312	17.406.135.055	111.478.346.695	83.608.760.023	4.180.438.001	199.267.544.718
2039	20.319.597.714	81.278.390.857	18.798.625.859	120.396.614.430	90.297.460.825	4.514.873.041	215.208.948.295
2040	21.945.165.531	87.780.662.125	20.302.515.928	130.028.343.585	97.521.257.691	4.876.062.884	232.425.664.159

Table 2:- Hospital Income Estimation (*Cash InFlow)*, General Income. BPJS Income, Coorporated Income, Business Support Income, Source: Processed data, 2019

Year	Cost Type							
	Employee costs	Pharmaceutical costs	Nutritional cost	Equipment costs	maintenance costs	Cleaning Cost	Office Administration Cost	Others Costs
2021	15.315.758.963	18.044.950.421	2.124.814.600	1.622.903.850	1.926.699.158	437.545.600	1.543.735.100	2.676.906.518
2022	16.081.546.911	18.947.197.942	2.231.055.330	1.704.049.043	2.023.034.116	459.422.880	1.620.921.855	2.810.751.844
2023	17.729.905.470	19.894.557.839	2.342.608.097	1.789.251.495	2.124.185.822	482.394.024	1.701.967.948	2.951.289.436
2024	17.729.905.470	20.889.285.731	2.459.738.501	1.878.714.069	2.230.395.113	506.513.725	1.787.066.345	3.098.853.908
2025	18.616.400.743	21.933.750.018	2.582.725.426	1.972.649.773	2.341.914.868	531.839.411	1.876.419.662	3.253.796.603
2026	19.547.220.780	23.030.437.519	2.711.861.698	2.071.282.261	2.459.010.612	558.431.382	1.970.240.646	3.416.486.433
2027	20.524.581.819	24.181.959.394	2.847.454.783	2.174.846.375	2.581.961.142	586.352.951	2.068.752.678	3.587.310.755
2028	21.550.810.910	25.391.057.364	2.989.827.522	2.283.588.693	2.711.059.200	615.670.599	2.172.190.312	3.766.676.293
2029	22.628.351.456	26.660.610.232	3.139.318.898	2.397.768.128	2.846.612.160	646.454.129	2.280.799.827	3.955.010.108
2030	23.759.769.028	27.993.640.744	3.296.284.843	2.517.656.534	2.988.942.768	678.776.835	2.394.839.819	4.152.760.613
2031	24.947.757.480	29.393.322.781	3.461.099.085	2.643.539.361	3.138.389.906	712.715.677	2.514.581.810	4.360.398.644
2032	26.195.145.354	30.862.988.920	3.634.154.039	2.775.716.329	3.295.309.401	748.351.461	2.640.310.900	4.578.418.576
2033	27.504.902.622	32.406.138.366	3.815.861.741	2.914.502.146	3.460.074.871	785.769.034	2.772.326.445	4.807.339.505
2034	28.880.147.753	34.026.445.285	4.006.654.828	3.060.227.253	3.633.078.615	825.057.485	2.910.942.767	5.047.706.480
2035	30.324.155.140	35.727.767.549	4.206.987.569	3.213.238.615	3.814.732.546	866.310.360	3.056.489.906	5.300.091.804
2036	31.840.362.897	37.514.155.926	4.417.336.948	3.373.900.546	4.005.469.173	909.625.878	3.209.314.401	5.565.096.394
2037	33.432.381.042	39.389.863.723	4.638.203.795	3.542.595.574	4.205.742.631	955.107.171	3.369.780.121	5.843.351.214
2038	35.104.000.094	41.359.356.909	4.870.113.985	3.719.725.352	4.416.029.763	1.002.862.530	3.538.269.127	6.135.518.774
2039	36.859.200.099	43.427.324.754	5.113.619.684	3.905.711.620	4.636.831.251	1.053.005.657	3.715.182.583	6.442.294.713
2040	38.702.160.104	45.598.690.992	5.369.300.669	4.100.997.201	4.868.672.814	1.105.655.939	3.900.941.713	6.764.409.449

Table 3:- Hospital Estimated Cost (*Cash outflow*) of managing General Hospital, Mappesangka Village Ponre District Bone Regency (2021-2040) (costs are assumed to increase by 5% for each year)

➢ *Feasibility Analysis of Hospital Establishment*

Analysis of the feasibility of establishing a hospital in Mappesangka Village, Ponre Subdistrict, Bone Regency, is an analysis that can determine whether investment in establishing a hospital in Mappesangka Village, Ponre Subdistrict, Bone Regency with an investment period of 20 years, with an expected return of 10% can be said to be feasible or not. Before conducting an investment feasibility analysis in the establishment of a public hospital in Mappesangka Village, Ponre Subdistrict, Bone Regency, net cash flow will be presented first in table 4 below:

Year	Net Cash Flow	Discount Factor(10%)	Present value of cash flow	Discount Factor(12 %)	Present value of cash flow
2021	10.162.516.158	0,909	9.238.651.053	0,893	9.073.675.141
2022	12.286.316.877	0,826	10.153.980.890	0,797	9.794.576.592
2023	14.645.561.625	0,751	11.003.427.216	0,712	10.424.421.483
2024	17.262.362.922	0,683	11.790.426.147	0,636	10.970.543.713
2025	20.160.766.142	0,621	12.518.249.587	0,567	11.439.760.141
2026	23.366.912.328	0,564	13.190.012.835	0,507	11.838.404.991
2027	26.909.214.455	0,513	13.808.681.853	0,452	12.172.362.044
2028	30.818.548.208	0,467	14.377.080.186	0,404	12.447.094.732
2029	35.128.458.491	0,424	14.897.895.583	0,361	12.667.674.294
2030	39.875.382.919	0,386	15.373.686.298	0,322	12.838.806.099
2031	45.098.893.688	0,350	15.806.887.111	0,287	12.964.854.256
2032	50.841.959.325	0,319	16.199.815.074	0,257	13.049.864.635
2033	57.151.227.920	0,290	16.554.674.987	0,229	13.097.586.374
2034	64.077.333.596	0,263	16.873.564.628	0,205	13.111.491.993
2035	71.675.228.097	0,239	17.158.479.743	0,183	13.094.796.199
2036	80.004.539.550	0,218	17.411.318.802	0,163	13.050.473.446
2037	89.129.960.579	0,198	17.633.887.540	0,146	12.981.274.366
2038	99.121.668.183	0,180	17.827.903.293	0,130	12.889.741.102
2039	110.055.777.934	0,164	17.994.999.129	0,116	12.778.221.654
2040	122.014.835.279	0,149	18.136.727.789	0,104	12.648.883.265
Total present value of cash flow			297.950.349.743		243.334.506.520
Present value of invesment			250.000.000.000		250.000.000.000
Net present value (NPV)			47.950.349.743		-6.665.493.480

Table 4:- Analysis of Net Cash Flow (NCF) on the Eligibility of Establishing a Hospital Mappesangka Village, Ponre District Bone Regency (DF=10%) & (DF=12%) Year 2021 to 2040

➢ *Net Present Value (NPV) Analysis*

The results of the calculation of net present value with DF = 10%, then the total present value of cash flow is obtained in the amount of Rp.297,950,349,743, while the level of investment is Rp.250,000,000,000, so a net present value (NPV) of + 47,950,349,743 is obtained Thus, it can be concluded that the level of investment in the establishment of the General Hospital of Mappesangka Village, Ponre District, Bone Regency can be said to be feasible.

➢ *Internal Rate of Return*

To assess the amount of IRR required NPV data that has 2 positive and negative poles. Having obtained NPV at 2 positive and negative poles, so with DF = 12% then obtained NPV -6,665,493,480. So the calculation of the internal rate of return (IRR) can be determined by the following formula:

$$IRR = rr + \frac{NPV\ rr}{TPV\ rr - TPV\ rt} (rt - rr)$$

$$IRR = 10\% + \frac{47.950.349.743}{297.950.349.743 - 243.334.506.520} \times (12\% - 10\%)$$

$$IRR = 10\% + \frac{47.950.399.743}{54.655.843223} \times (2\%)$$

IRR = (10% + 0,88 x 2%)

IRR = 10% + 1,76

IRR = 11,76%

➢ *Payback Period*

To measure how long all investments issued can be covered again. To measure the length of investment funds that were reinvested as before were called payback periods. Payback period is a period that is needed to cover the return on investment

Investment	Rp.250.000.000.000
Cash flow year 1	Rp. 10.162.516.158 (-)
	Rp.239.837.483.842
Cash flow year 2	Rp. 12.286.316.877 (-)
	Rp.227.551.166.965
Cash flow year 3	Rp. 14.645.561.625 (-)
	Rp.212.905.605.340
Cash flow year 4	Rp. 17.262.362.922 (-)
	Rp.195.643.242.418
Cash flow year 5	Rp. 20.160.766.142 (-)
	Rp.175.482.476.276
Cash flow year 6	Rp. 23.369.912.328 (-)
	Rp.152.115.563.948
Cash flow year 7	Rp. 26.909.214.455 (-)
	Rp.125.206.349.493
Cash flow year 8	Rp. 30.818.548.208 (-)
	Rp. 94.387.801.286
Cash flow year 9	Rp. 35.128.458.491 (-)
	Rp. 59.259.342.794
Cash flow year 10	Rp. 39.875.382.919 (-)
	Rp. 19.383.959.876
Cash flow year 11	Rp. 45.098.893.688

So the calculation of the payback period can be calculated as follows:

$$PBP = 10 \text{ Tahun} + \frac{19.383.959.676}{45.098.893.688} \times 1 \text{ tahun}$$

PBP = 10 tahun + 0,43 tahun
PBP = 10,43 tahun

Based on the payback period, the PBP value = 10.43 years <20 years, it can be said that the investment from the establishment of the General Hospital of Mappesangka Village, Ponre District, Bone Regency can be concluded as feasible.

➢ *Metode Profitability Indeks*

The profitability index (PI) method is to calculate the ratio between present value and revenue with present value and investment. If the profitability index is greater than 1, the investment project is considered feasible. This method is more often used to rank several projects that will be selected from several alternative projects for which the formula used by PI is:

$$PI = \frac{\text{PV of cash flow}}{\text{Investasi}}$$

$$PI = \frac{297.950.349.743}{250.000.000.000}$$

PI = 1,19

Therefore profitability index (PI) = 1.19> 1, it can be presented that the establishment of the Mappesangka Village General Hospital, Ponre Subdistrict, Bone Regency can be said to be feasible.

➢ *Average Rate of Return*

Year 2021 - 2040

Tahun	Net cash Flow (Rp)
2021	10.162.516.158
2022	12.286.316.877
2023	14.645.561.625
2024	17.262.362.922
2025	20.160.766.142
2026	23.366.912.328
2027	26.909.214.455
2028	30.818.548.208
2029	35.128.458.491
2030	39.875.382.919
2031	45.098.893.688
2032	50.841.959.325
2033	57.151.227.920
2034	64.077.333.596
2035	71.675.228.097
2036	80.004.539.550
2037	89.129.960.579
2038	99.121.668.183
2039	110.055.777.934
2040	122.014.835.279
NCF Average	50.989.373.214
Investment	250.000.000.000
ARR	20,40

Table 5:- Net Cash Flow Average

V. CONCLUSION

Based on the results of the analysis and discussion described in the previous chapter, several conclusions can be drawn from the analysis results, as follows:

- The results of the analysis of the investment feasibility study seen from the Net Present Value (NPV), where the Net Present Value is greater than the expected rate of return, it can be said that the investment in the establishment of a public hospital in Mappesangka Village, Ponre Subdistrict, Bone Regency is feasible.
- The results of the analysis of the Internal Rate of Return (IRR) of 11.76%> 10%, this means it can be said that the investment in the establishment of the General Hospital

of Mappesangka Village, Ponre Subdistrict, Bone Regency is feasible.

- The result of the Average Rate of Return (ARR) analysis is greater than 10% (20.40%> 10%) and besides that the Profitability Index (PI) is greater than 1, it can be said that the investment in the establishment of Mappesangka Village General Hospital, Ponre Subdistrict, Bone Regency is feasible.

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