ANALYSIS OF RENT, BUY AND RENT-TO-BUY WITH NET PRESENT VALUE METHOD IN THE DECISION OF TRUCK PROCUREMENT AT PT. XYZ

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ABSTRACT

PT. XYZ is a company engaged in ready-mix or ready-made concrete. This study aimed to analyze procurement decisions with several alternatives: rent, buy and lease, by applying the NPV (Net Present Value) method. The method was interviewing employees based on their fields and collecting the required documents. From the data analysis and evaluation carried out, then it decided to procure the truck. From the results of the study, it can be concluded that with the analysis of the NPV method, the decision to procure trucks was with a rent-to-buy model.

Keywords: Net Present Value, Rent-to-Buy, and Procurement Decision

INTRODUCTION

The growth trend of the national construction market continues to increase from year to year in line with the high demand for infrastructure development in the country. The national construction market value is estimated to reach Rp 407 trillion this year. Unfortunately, the huge value of the "construction cake" cannot be enjoyed fairly and equally by national contractors, especially small contractors who are increasingly difficult to compete with

Table 1
National Construction Market Growth

ITEM	2012	2013	2014
Domestic infrastructure development (trillion)	284	369	407

Table 2
Infrastructure Investment Progress in Indonesia in 2013

SECTOR	VALUE (Trillion)
Private	269.3
Stated-own Enterprices of Indonesia (BUMN)	340.5
The Local Government Budget (APBD)	445.57
The National Budget of Indonesia (APBN)	815.6

The contribution of the construction industry to gross domestic product (GDP) grows from around 7.07% in 2009, to 10.54% in 2013. At present, the construction contribution to GDP is still less than trade around 13 percent and agriculture 14 percent. Although the growth in the two sectors tends to slow down and decline, but the construction sector is certain to continue to grow. In fact, according to the Ministry of Public Works within the next five years, the construction market value is estimated to reach Rp 1,000 trillion, assuming a market increase of Rp 100 trillion annually. The value of infrastructure needs for 2011-2015 reached Rp 1,786 trillion with the priority of being a development of new power and energy infrastructure, then followed by road infrastructure.

The infrastructure availability to support the pace of the economy is necessary, if Indonesia wants to avoid the middle income trap. The government together with the private sector must boost public infrastructure investment to deliver as the world's top 10 countries in the next few years. As is known, Indonesia's infrastructure competitiveness index ranked 61 out of 144 countries in 2013, while in the previous year the World Economic Forum (WEF) report ranked Indonesia 78th. The WEF data titled Global Competitiveness Report shows Indonesia's competitiveness ranking has improved. Indonesia improved its ranking from 50th in the 2012-2013 period to 38th for the 2013-2014 period.

"That is not enough, to become a country that has the power of a large world economy. It must be at level 5 or at least level 6 for infrastructure competitiveness. If not, it also is left behind and failed to achieve an increase in the middle class to the top."

The government has shown a commitment to boost infrastructure investment. Last year, investment was approaching 5 percent of GDP or said to be the lower limit of the percentage of infrastructure financing that is relatively ideal to drive economic growth of 7 percent per year. In the last four years, infrastructure financing reached Rp 1,870.97 trillion, while the initial calculation of investment needs in 2010-2014 reached Rp 1,923.7 trillion, with a funding gap of Rp 52 trillion in the long-term road map. "Indonesia's infrastructure financing is among the largest in Southeast Asia, and should be able to be an incentive for local contractors to improve performance,"

However, there are also many problems that surround the construction sector. Starting from regulations that have not fully supported the contractor's space, the lack of human resources quality, the low trust of local banks to support financing, dependence on imported raw materials, and most crucially, there is no legal certainty especially regarding land acquisition. In terms of human resource quality, for example, when referring to the latest data, the number of national construction service operators is 117,042 business entities and consultants are 4,414 business actors.

Nevertheless, until now business entities with large qualifications are still few compared to small and medium qualifications. Likewise, with the construction workforce, it is known that there are 10 percent experts, 30 percent skilled workers, and 60 percent unskilled laborers. Not only that, the construction workers have not been well organized. Admittedly, the structure of national service providers is less balanced. This is because about 90 percent of them are small-scale companies that do not yet have competent experts, in addition to those responsible for technical matters in managerial ability. In fact, the future predictions of the construction market are very encouraging. "This also affects competitiveness, it is not even impossible that we will be increasingly difficult to stem the onslaught of foreign contractors," In fact, the contractor of neighboring countries is increasingly stretching, for example, Singapore, Malaysia and the Philippines have gained a share of overseas

construction projects. In contrast, national contractors are still fighting over government projects. Plus, in fighting for a tender in the environment of the services companies, there is still unfair competition. The optimal synergic partnership between large contractors and small contractors has not yet been realized.

Furthermore, in the face of the ASEAN free market, only a handful of construction workers will register. "Experts participated in Mutual Recognition Arrangement (MRA) until now have only reached 159 people, their participation still needs to be encouraged. Moreover, Indonesia will soon have to compete with foreign workers during the 2015 ASEAN regional market openness, "Regarding the use of materials, both Readymix concrete and others will naturally follow the level of need mentioned above. Those are all opportunities that must be calculated, sorted and chosen based on the Company's Vision and Mission."

To support it, a lot of concrete production equipment is needed, both Batching Plant, Truck Mixer, etc. The equipment can be imported or locally provided, all that needs to be prepared is capital capability.

Example; In 2012-2013 infrastructure development was so intense, that the opportunity was huge, and to achieve that opportunity several large ready-mix companies had policies in investing in production equipment in several ways, including investment in leasing, leasing and buying and leasing.

Responding to the desire not to lose so great opportunities in construction work, especially ready-mix, PT XYZ intends to analyze the decision to invest in a Truck Mixer with the Net Present Value method.

There are several alternative choices in investinly:

1. Leasing Investment
2. Doing rent
3. Conduct a lease purchase pattern

With limits on both the number of truck mixers to be held and the addition to sales / revenue, the three alternatives are analyzed to what extent is their impact on cash flow to get more profitable results?

LITERATURE REVIEW

Capital investment

An organization or company is often faced with a situation, the opportunity or even a necessity to make investments or investments in fixed assets or projects in large numbers and long term (S. Munawir, 2002).

Management faces the decision to invest or not to invest in new equipment or a more sophisticated product processing system (flexible manufacturing system) or keep existing systems that are traditional. These long-term decisions are investment (capital investment decisions).

Capital investment decisions are related to the planning process, determining goals and priorities, financial planning and the use of certain criteria in selecting long-term assets. Because long-term investment decisions are the use of enormous amounts of resources with long-term risks and will affect the company development, then the wrong investment decisions will be disastrous for the company.

Competitors using modern production facilities can produce high-quality products at lower costs. Thus, the right investment decision making is a fundamental factor for a company's long-term life.

Investment decisions often relate to investments in long-term assets. Except for land, long-term assets will be depressed for life, which means expenditures for planting as long as the assets are used. An excellent investment decision must be able to recover investment expenses over period according to the useful life of the asset, and a reasonable return is obtained from the investment. It is generally agreed that a reasonable rate of return is that the new project must be able to cover the cost of capital or the opportunity for the funds invested.

Investments decision

Investment is investing funds or capital made by a company into an asset (assets) hoping to earn income later, investment decisions can be in the form of replacement equity or business expansion.

The reason for the need for replacement of equations is because old machines are no longer efficient, so the basis used in the decision to replace equities is cost savings besides considering additional income or capacity. If the cost savings obtained from replacing an equipment will produce the desired rate of return, then this replacement is economically necessary.

The purpose of investment for business expansion is to increase capacity, so the basis used in business expansion decisions is the estimated profit and the rate of return that will be obtained later, besides considering other factors, such as risk and time value of money.

In making investment decisions, management must estimate the amount and timing of cash flows, determine risk and determine the effect of the project on company profits. The most difficult task is estimating cash flow because it has to make projections for the next few years. Although cash flow estimation is a critical part of the investment process. The main step in the investment process

is to determine goals and priorities and identify the basic criteria for accepting or rejecting the proposed investment.

Investment feasibility analysis must be done in developing or establishing a new business (Pratasis: 2016)

Cash flow

The cash flows statement is prepared to show changes in cash during a period and provides the reasons for these changes by showing where the sources of cash receipts are and why they are used. The cash flow statement differs from the income statement, the cash flow statement summarizes financial transactions related to cash, while the income statement shows the realized income and costs incurred without regard to whether there are cash receipts or disbursements.

There are three main categories of sources and uses of cash, operating activities, investing activities and financing activities. Therefore, cash flow statements must report cash flows for a certain period and are classified according to operating, investing and financing activities in the manner that is most appropriate for the business of the company. A transaction can include cash flows that classified into over one category, for example, the bank loans repayment which includes the principal and interest, the interest is an element of operating activities, while the principal of the loan is an element of financing activities.

The amount of cash flows from operating activities is defined as all cash receipts related to sales income and cash outflows relating to operating costs, including payments to suppliers of goods or services, payment of wages, interest and taxes (cash flow obtained from producing activities main company revenue). Investment activities include the long-term assets acquisition including the purchase of securities that are not equivalent to cash and lending money and vice versa, the sale of long-term assets and the loans repayment. Funding activities include money lending activities comprising mortgage debt, bond debt and other forms of long-term debt and issuance of new shares, repayment of long-term loans, payment of dividends to shareholders and the use of cash to repeal corporate shares.

Net Present Value (NPV)

In making investment long-term decisions, the time, value, and money have an important role because someone would prefer to receive money now rather than being delayed later because money now has greater value than the same money later. Present value is used to calculate the amount of money at the early period based on a certain interest rate of an amount that will be received some time later.
NPV also offers an optional approach to overcome difficulties in making investment decisions with an NPV value at a certain level of confidence that is 95% (Fitriani, Farida, & Wibowo: 2006.
If the net present value (NPV), which is the difference between the present value or the present value of future receipts reduced by initial investment, is positive, then it gives a signal that:
1. Initial investment is closed;
2. The desired rate of return has been closed;

3. An exceeded of a rate of return has been obtained so investment proposals should be accepted.
If the NPV is equal to zero, then the decision maker can accept or reject the investment because the same conditions are obtained. If the NPV is negative or below zero, then the investment proposal should be rejected, because the rate of return obtained will be smaller than the desired rate of return.
Present Value:

$$PV = Kn / (1 + r) n$$

Where :
Pv = Present value
Kn = cash flow in the nth year
i = interest
n = year

Present Value annuity:
Is revenue consisting of a series of receipts with the same fixed amount for a certain number of years, each receipt is made at the end of the period / year (annuity).

$$A = ((1- (1 / (1 + i) n)) / i)$$

Where :
A = present value of an annuity
i = interest
n = year

Net Present Value:

$$NPV = -Io + PV$$

Where :
NPV = net present value
Io = initial investment / investment value
PV = present value

RESEARCH METHOD

This research was a case study on a national-scale concrete company (ready-mix concrete) in East Java, with documents related to the goods procurements. In this study, the data used secondary data where the data was obtained directly from the company and other data related to research.

Data Collection Techniques

The data collection techniques were conducted by several methods, including:
a. Interview: getting data by conducting direct interviews with employees based on their fields, hoping they can obtain data about the company's picture, the procurement process and other problems.
b. Documentation: obtaining data by gathering documents on procurement, evaluation and analysis.

Data Analysis Techniques
A. Procurement Data

Truck Price = Rp. 950,000,000 / unit
Total investment = 20 units
Average concrete selling price= Rp. 750,000 / m3
Investment Value = Rp. 19,000,000,000
Increase in selling price = 10% / yr
Average rit / truck = 5 rit / hr
Average vol / truck = 7 m3 / truck
Effective working day = 25 days
Volume addition = 210,000 m3 / year
Sales addition = Rp.157,500,000,000 / year
Cash flow projection = for 3 years

RESEARCH RESULTS AND DISCUSSION

Research Object Profile

The object of this research was a national-scale concrete company (ready-mix concrete) in East Java, which was founded in 1989. Along with the reasonably high economic growth and rapid development of the construction sector, particularly infrastructure and property development, the company is taking part through the business of providing Ready-to-use Concrete products.
With the support of experienced staff in the field of concrete, the right equipment and group facilities, the company always prioritizes customer satisfaction and trust, by ensuring that the products produced can meet the required quality, delivering products on time and at competitive prices.

Description of Research Results and Discussion

A. Price of Production Equipment & Performance Improvement

TM Price = Rp. 950,000,000 / unit

Total investment = 20 units

Average concrete selling price = Rp. 750,000 / m3

Investment value = Rp. 19,000,000,000

Increase in selling price = 10% / yr

Average rit / TM = 5 rit / day

Vol / TM average = 7 m3 / TM

Effective working day = 25 days

Volume addition = 210,000 m3 / year

Sales addition = Rp.157,500,000,000 / year

Cash flow projection = for 3 years

B. Cost Trend

From the reference source of PT XYZ's Company Performance Report, we can analyze the cost trends in several large group items which in cash must also be issued while the evaluation results are in table 3.

Table 3 Cost Trend

Information	Year					Mean
	2014	2013	2012	2011	2010	
Payment for purchasing raw materials	0.64	0.63	0.62	0.63	0.63	0.63
Labor costs	0.04	0.03	0.03	0.03	0.03	0.03
Factory overhead costs	0.16	0.14	0.14	0.15	0.14	0.15
Rental Costs	0.00	0.00	0.00	0.00	0.00	0.00
General and administrative expenses	0.05	0.05	0.05	0.04	0.04	0.05

C. Leasing Procurement Plan

Data from leasing party:

- Value borne = 80% of the base price
- Interest = 10% / year (flat)

Table 4.

Cash flow projections

Information	2015	2016	2017
Cash inflow			
Sales receipt	78,750,000,000.00	86,625,000,000.00	95,287,500,000.00
Total cash inflow	78,750,000,000.00	86,625,000,000.00	95,287,500,000.00

Cash Outflow

Investments	10,386,666,666.67	6,586,666,666.67	6,586,666,666.67
Payment for purchasing raw materials	49,612,500,00.,00	54,573,750,000.00	60,031,125,000.00
Labor costs	2,360,103,882.21	2,596,114,270.43	2,855,725,697.47
Factory overhead costs	11,612,962,101.41	12,774,258,311.55	14,051,684,142.70
Rental Costs	0.00	0.00	0.00
General and administrative expenses	3,641,494,178.76	4,005,643,596.64	4,406,207,956.30
Total Cash Outflow	77,613,726,829.05	80,536,432,845.29	87,931,409,463.15
Surplus (deficit)	1,136,273,170.95	6,088,567,154.71	7,356,090,536,85
Beginning cash balance	0.00	1,136,273,170.95	7,224,840,325.67
Ending cash balance	1,136,273,170.95	7,224,840,325.67	14,580,930,862.52

D. Plans for Rent

With a rent plan, it meant there was no cash out on investment, there was cash out on rent where the monthly rental price was Rp.35,000,000 / unit.

And the cash flow projection was in table 5.

Table 5

Information	2015	2016	2017
Cash inflow			
Sales receipt	78,750,000,000.00	86,625,000,000.00	95,287,500,000.00
Total cash inflow	78,750,000,000.00	86,625,000,000.00	95,287,500,000.00
Cash Outflow			
Investments	0.00	0.00	0.00
Payment for purchasing raw materials	49,612,500,00.,00	54,573,750,000.00	60,031,125,000.00
Labor costs	2,360,103,882.21	2,596,114,270.43	2,855,725,697.47

Factory overhead costs	11,612,962,101.41	12,774,258,311.55	14,051,684,142.70
Rental Costs	8,400,000,000.00	8,400,000,000.00	8,400,000,000.00
General and administrative expenses	3,641,494,178.76	4,005,643,596.64	4,406,207,956.30
Total Cash Outflow	75,627,060,12.38	82,349,766,178.62	89,744,742,796.48
Surplus (deficit)	3,122,939,837.62	4,275,233,821.38	5,542,757,203.52
Beginning cash balance	0.00	3,122,939,837.62	7,398,173,659.00
Ending cash balance	3,122,939,837.62	7,398,173,659.00	12,940,930,862.52

E. Plans to Conduct a rent-to-buy Pattern

With the plan to conduct a rent-to-buy pattern, where PT XYZ rents for 3 years and at the end of the 3rd year belongs to PT XYZ with the following conditions:

Advance = 15% of the cost of the equipment (paid at the beginning of the lease)

Monthly rent = Rp. 24,000,000 / unit

Deposit = 15% of the base price (paid at the end of the lease)

Interest = 12%

PT XYZ's obligations are:

- 15% down payment = Rp. 142,500,000 / unit
- PV of a 3rd year annuity = 2,402
- installments (PV an annuity)= Rp. 691,727,405.25 / unit / year
- 3rd year PV = 0.712
- closing money = Rp. 101,428,685.31 / unit
- So the value of PV goods= Rp. 935,656,090,56 <Rp. 950,000,000
-----> control 1

Table 6

Information	2015	2016	2017
Cash inflow			
Sales receipt	78,750,000,000.00	86,625,000,000.00	95,287,500,000.00
Others			0.00
Total cash inflow	78,750,000,000.00	86,625,000,000.00	95,287,500,000.00
Cash Outflow			

Investments	2,850,000,000.00		2,850,000,000.00
Payment for purchasing raw materials	49,612,500,00.,00	54,573,750,000.00	60,031,125,000.00
Labor costs	2,360,103,882.21	2,596,114,270.43	2,855,725,697.47
Factory overhead costs	11,612,962,101.41	12,774,258,311.55	14,051,684,142.70
Rental Costs	5,760,000,000.00	5,760,000,000.00	5,760,000,000.00
General and administrative expenses	3,641,494,178.76	4,005,643,596.64	4,406,207,956.30
Total Cash Outflow	75,837,060,162.38	79,709,766,178.62	89,954,742,796.48
Surplus (deficit)	2,912,939,837.62	6,915,233,821.38	5,542,757,203.52
Beginning cash balance	0.00	2,912,939,837.62	9,828,173,659.00
Ending cash balance	2,912,939,837.62	9,828,173,659.00	15,160,930,862.52

Net Present Value Analysis:
Present Value cash flow:
1st year PV = 0,893 x 2,912,939,837.62 = 2,600,839,140.73
2nd year PV = 0.797 x 9,828,173,659.00 = 7,834,959,868.46
3rd year PV = 0,712 x 15,160,930,862.52 = 10,791,251.126.41

So the total current value (PV) of the final cash balance = 21,227,050,135.60

NPV = -Io + PV
= -19,000,000,000 + 21,227,050,135,60
= 2,227,050,135,60
-----> control 2

CONCLUSIONS AND SUGGESTIONS

Conclusions
Based on the results of the discussion, it can be concluded:

1. From the three alternative investment patterns, it turns out that the rent-to-buy pattern can provide a better ending cash balance trend so that this pattern can be followed up for subsequent investments.

2. With the rent-to-buy pattern, the current value of goods (PV) is Rp. 935,656,090.56 less than the purchase value of goods Rp. 950,000,000, so that the goods we buy are actually cheaper than the specified price, this is a means of controlling the price of goods (control 1).

3. From the Net present value (NPV) analysis, a positive NPV value of Rp. 2,227,050,135,60, so that the investment can be received and profitable, this becomes the main control over the investment (control 2).

Suggestions

The suggestion given for further research is:

a. The application of NPV method analysis should not only be applied to trucking decisions, but can also be applied to other procurement decisions.

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