

Role of Bank Waste Towards Increase in Income of Customers of Bank Waste in Pondok Pinang, Selatan Jakarta

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ABSTRACT. The increase in population has resulted in the city of Jakarta being hit by a waste problem which continues to increase every day. A waste bank is a solution to reduce the existing waste problem, because a waste bank is an environmentally friendly waste management that is carried out by recycling waste into goods that have economic value. This research was conducted using secondary data. The sample in this study were 7 RWs or as many as 327 participants who became customers of the waste bank program in Pondok Pinang Village, Jakarta City using the Time Series and Cross section methods. Data collection was carried out by means of documentation. The data analysis technique used is panel data regression analysis. Based on the results of the analysis, it shows that customer participation and waste savings have an effect simultaneously or simultaneously on the income of the waste bank in Pondok Pinang, Jakarta.

Keywords: waste bank income, customer participation, waste savings.

1. INTRODUCTION

Reporting from tirto.id 31/01/2018 DKI Jakarta Governor Anies Baswedan said that every day the City of Jakarta produces around 7,000 tons of waste. In fact, in November 2017, the capital city of this country produced around 2.3 million tons of waste per year. To solve the waste problem in the capital city, Anies said the DKI Jakarta Provincial Government would cooperate with the Danish Government and the Norwegian Government. Anies said that the waste produced includes 54 percent organic waste and 14 percent plastic waste. "Waste subscribers require an active role for residents," he said. Currently, the steps taken by the DKI Jakarta Provincial Government in dealing with this are still in stage two. "Where the local government is the service provider, where residents throw garbage, the orange troops clean," said Anies. Therefore, Anies is moving to the third stage, where residents play an active role in protecting the environment by cooperating, working together and dare to warn if someone is littering. "Every effort will literature review is not more than 1000 words stating the state of the art in the field under study. The chart

can be created in JPG / PNG format which is then pasted in this field. Reference sources / primary references that are relevant and give priority to research results in the most recent scientific journals and / or patents. It is recommended to use the library sources for the last 10 years. It becomes more meaningful if all parties feel responsible for maintaining the cleanliness of this city. Moving forward, the city will be happy for its citizens," said Anies.

In protecting the environment, it is necessary to have an institution to accommodate the waste management of the residents. The waste bank program is one of the efforts to reduce environmental pollution. In addition, waste banks can provide benefits for residents. In the Regulation of the Minister of the Environment number 13 of 2012 concerning guidelines for the implementation of reduce, reuse and recycle through a waste bank, what is meant by a waste bank is a place for sorting and collecting recyclable waste so that it has economic value.

The waste bank was established because of the community's concern about the environment, the

environment is increasingly filled with both organic and non-organic waste. The more and more waste will certainly cause many problems, so that it requires processing such as making waste into useful materials. It is hoped that the management of a waste bank with a waste bank system can help the government handle waste and improve the economy of the community.

The waste bank mechanism is the same as the bank mechanism in general in the form of savings where the public can make deposits and withdrawals. The difference is that the deposits that are collected by the public are in the form of garbage while the deposit in the bank is in the form of money. The waste bank working mechanism according to Law No. 13 of 2012 includes: collecting, sorting and distributing economic value waste to the market so that people will benefit from waste savings. Thus the waste bank program can be used as a social engineering tool to form a good waste management system in the community. Researchers are motivated to determine the extent to which changes in the income of waste bank customers regarding the existence of waste banks, and to change people's attitudes to be more cooperative in efforts to reduce waste. Based on this motivation, researchers are interested in researching the "Role Of Bank Waste On Increasing Income Of Bank Waste Customers In Pondok Pinang Selatan Jakarta."

2. METHODS

2.1 Research Method

This study is a correlation research study, which is a study that aims to identify variables in certain situations that affect a phenomenon being observed. (Ghozali, 2018). The research design uses the causal method which aims to determine the effect of one or more variables (independent variable) on a certain variable (dependent variable) which is then described in several testing stages because it aims to determine the effect of independent variables (customer participation and waste savings) has an influence on the variable tied up (Waste bank income). This study uses a quantitative approach. The quantitative approach is a research approach that uses data in the form of numbers and processing it through statistical calculations. Based on the operational definition of this variable, it is customer participation, waste savings and sales proceeds to the waste bank customer income.

1) Customer Participant (X1)

Customer participation in the waste bank

program is measured by the presence of customers in carrying or saving waste to the Garbage Bank. Participation is the total participation of the community during joining the waste bank program.

2) Waste Savings (X2)

Garbage that is collected and brought to the waste bank can be immediately priced per kilogram. In this study, waste savings that will be used are waste savings in rupiah owned by waste bank customers while joining the waste bank program.

3) Income (Y)

Income is income received by individuals in the form of non-money money from all activities of selling goods or services carried out by individuals. The income in this study is the total revenue of the waste bank in million units.

2.2 Population and Sample

Population is the whole psychological object which is limited by certain criteria. The population in this study were all active waste bank customers in Pondok Pinang Village, South Jakarta. The following is Rw's data which has a Garbage Bank program in Pondok Pinang Village which is the population in this study:

TABLE 1. Research Population

No	Bank Sampah	Jumlah Peserta	No	Bank Sampah	Jumlah Peserta
1	RW 01	79	6	RW 08	26
2	RW 02	32	7	RW 09	Tidak diketahui
3	RW 04	13	8	RW 10	Tidak diketahui
4	RW 06	70	9	RW 11	76
5	RW 07	Tidak diketahui	10	RW 12	32

The sample in this study was selected by means of purposive sampling, which is a non-probability sampling technique based on certain criteria or considerations (Indriantoro and Bambang, 2002). The sample selection used purposive sampling method based on several criteria, namely:

- a. RW in Pondok Pinang Urban Village, South Jakarta that has a waste bank program.
- b. RW in Pondok Pinang Village, South Jakarta that reports waste bank data which includes customer participation data, waste savings data and waste

bank income.

Sampling can be seen in table 2.2 below:

TABLE 2. Population Selection Process

Keterangan	Tidak Sesuai	Jumlah
RW in Pondok Pinang Urban Village, South Jakarta that has a waste bank program.		10
RW in Pondok Pinang Village, South Jakarta that reports waste bank data which includes customer participation data, waste savings data and waste bank income	3	7
Total sample (Rw 01 + Rw 02 + Rw 04 + Rw 06 + Rw 08 + Rw 11 + Rw 12)		327

2.3 Types and Sources of Data

The data source used in this research is secondary data in the form of panel data. According to Hasan (2006: 19), what is meant by secondary data is "data obtained or collected by people who conduct research from existing sources". While the panel data itself is a combination of periodic data (time series) and cross section data. The data used in this study is the data on the income of all RWs in Pondok Pinang Village during the waste bank program. Then the next is data on customer participation and waste savings in all RWs in Pondok Pinang village during the waste bank program. Which is where all the data is obtained from the Pondok Pinang Urban Village Waste Bank Program, South Jakarta.

2.4 Data Collection Technique

Collecting research data is intended to record the events or characteristics of some or all elements of the research population. (Hasan, 2006: 23). In this study, to obtain the necessary data, data collection techniques were used with the documentation study method. Documentation study is a way of collecting data through written legacy. The data collected is in the form of documents that are included in the existence of a waste bank (history) and can be seen from data in Pondok Pinang village, South Jakarta.

2.5 Data Analysis Technique and Hypothesis Test

Data analysis is an activity to reveal and answer questions on problem formulations from data obtained in the research process. The data analysis technique used in this research is descriptive-inferential analysis

technique of panel data.

2.5.1 Descriptive Analysis

Descriptive analysis is used to describe what it is about a variable, symptom or condition. By doing descriptive analysis, we can find out the description of each research variable.

According to Sugiyono (2012: 206), descriptive statistics are statistics used to analyze data by describing or describing the data that has been collected as it is without intending to make general conclusions or generalizations.

The steps taken in this analysis are:

- a) Selecting data, a step taken to check the completeness of the data by checking the completeness and clarity of the collected data.
- b) Tabulating data, a process of processing data from data collection instruments into tables to be systematically tested

2.5.2 Inferential Analysis

Inferential analysis according to Sugiyono (2011: 209) is "a statistical technique used to analyze sample data and the results are applied to the population." In this study, the statistical analysis technique used in testing the hypothesis is panel data regression. To test the research hypothesis, the steps used in the study are as follows:

- a. Panel Data Regression Analysis

This study uses panel data. Which is where panel data is a combination of time series data and cross section data so that the method used is specifically for panel data. According to Gujarati (2012: 237), states that "Panel data (Pooled Data) or what is also called longitudinal data is a combination of cross section data and time series data."

Cross section data is data that is collected at one time for many individuals. While time series data is data that is collected from time to time on an individual. Apart from that, there are several advantages when using panel data. Including the following:

1. By combining time series and cross section observations, panel data provides more information, more variation, more efficiency, more degree of freedom and less co-linearity between variables.

2. Because of the data relating to individuals, companies, states from time to time there is a limit to heterogeneity in each of these units. With panel data estimation techniques can overcome the heterogeneity.
3. By studying repeated cross section observations, panel data is most suitable for studying the dynamics of change.
4. Panel data can minimize bias if we aggregate large individuals / companies.
5. Panel data makes it easy to study complex behavioral models.
6. Panel data can detect and measure impact in a simple way.

b. Testing Basic Assumptions (Classical Assumptions)

According to Basuki (2016: 297), the classic assumption test used in linear regression with the Ordinary Least Squared (OLS) approach includes Linearity, Autocorrelation, Heteroscedasticity, Multicollinearity and Normality tests. However, in panel data regression not all tests need to be performed.

- Since the model has been assumed to be linear, the linearity test is hardly carried out on the linear regression model.
- In terms of BLUE (Best Linear Unbias Estimator), the normality test is not included in it, and some opinions also do not require this requirement as something that must be met.
- Basically, the autocorrelation test on data that is not time series (cross section or panel) will be useless, because autocorrelation will only occur in time series data.
- When the linear regression model uses more than one independent variable, it is necessary to do a multicollinearity test. Because if there is only one independent variable, multicollinearity is impossible.
- The condition of data containing heteroscedasticity usually occurs in cross section data, where panel data is closer to the characteristics of cross section data than time series.

From some of the explanations above, it can be concluded that in the panel data regression model, the classic assumption test used is multicollinearity and heteroscedasticity only.

c. Hypothesis test

Hypothesis test used in this research is simultaneous test and partial test.

3. RESULT AND DISCUSSION

3.1 An Overview

Pondok Pinang Urban Village office is located on Jl. Pd. Pinang VII, RT.10 / RW.2, Pd. Pinang, Kec. Kebayoran. Lama, Kota South Jakarta, Special Capital Region of Jakarta 12310. This sub-district borders Tanah Kusir (Pesanggrahan river channel) to the north, Pesanggrahan River to the west, Pondok Indah Arterial Road to the east and Lebak Bulus Terminal. This Kelurahan office is not only active in serving the administrative needs of the community but also covers social activities. One of the activities fostered by Pondok Pinang village is the Garbage Bank group. Through a program initiated by the Train of the Infrastructure and Environmental Hygiene Section, Bpk. H. Zaenudin said that the Waste Bank program was created to encourage housewives to actively participate in reducing household waste which is a big problem for people living in the capital. Plus the support from the DKI Jakarta Provincial Government which emphasizes the importance of solutions to waste disposal problems. This Waste Bank activity is managed by representatives of PKK mothers in each Pondok Pinang Village area. Each waste bank group has a management consisting of a group chairman, secretary and treasurer. There are 12 RWs that have Garbage Banks with different levels of activity. The Waste Bank program is actively being promoted from the beginning of 2018 until now.

The Waste Bank Management System, where each member of the group has activities to collect garbage / household waste that can still be recycled or sold, including HVS paper, cardboard, duplex, newsprint, book paper, plastic bottles / cups, used cooking oil and others. . Waste that can be sold is then weighed and can be immediately valued per kilogram, then recorded into a savings book and collected or coordinated by the group leader of each waste bank. The balance listed in the customer's savings is adjusted to the weight of waste collected per item which is then calculated at a predetermined price, the more waste is carried, the more money is saved. Even though they actually save garbage once, the money they generate is not so much, only around Rp. 5000 to Rp. 40,000, but according to customers, with this profit they are more enthusiastic

about collecting waste, for them waste is not only considered as waste that has used up its benefits but trash can. become coffers of their household finances. Moreover, they are aware that unmanaged waste will actually pollute the environment where they live.

Every two weeks on a day according to the predetermined schedule, officers from the Main Garbage Bank of the South Jakarta area visit each of the waste bank group areas to collect the collected and sorted waste for weighing. The task of the waste bank management is to record the results of the scales and the nominal value of Rupiah obtained by each member and then recorded.

Based on the observed population, there are 12 groups of Garbage Banks in the Pondok Pinang neighborhood. Of the 12 groups of Garbage Banks in accordance with the selection criteria, only 7 were groups of Garbage Banks with a total of 327 participating customers. A total of 327 participant data were then used by researchers to process the data to find the results.

3.2 Data Analysis Technique

The data analysis technique used in this study consisted of the classic assumption test, namely the multi-collinearity test, multiple linear regression,

determination test and hypothesis testing using the help of a test tool, namely the SPSS (Statistical Product and Service Solutions) version 25 program. Here are the results.

Multicollinearity Test

Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	PARTISIPASI	,663	1,509
	TABUNGAN	,663	1,509

a. Dependent Variable: PENDAPATAN

FIGURE 1. Multicollinearity Test

The statistical test results above show that there is no correlation between the independent variables, it can be seen from the VIF and Tolerance values. The VIF value in this study is 0.663, where the value is $0.663 > 0.10$ and the tolerance value is 1.509, where the value is $1.509 < 10$

3.2.1 Multiple Linear Regression Analysis

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13142661,03	705165,909		18,638	,000
	PARTISIPASI	-238927,710	90071,294	-,176	-2,653	,008
	TABUNGAN	5,155	1,147	,298	4,493	,000

a. Dependent Variable: PENDAPATAN

FIGURE 2. Multiple Linear Regression Test

From the results of statistical testing, the following equation is obtained:

$$Y = 13142661,03 - 238927,710 + 5,155$$

3.3 The results of the above equation show a constant value of 13142661.03, which means that if all independent variables, namely customer participation and savings, are equal to 0, the income variable will be worth 13142661.03.

3.4 Next, we can see the coefficient value of the participation variable (X1) of -238927,710,

which means that if the participation variable increases by 1 point, the income variable will decrease by 238927.

3.5 And finally the coefficient value of the savings variable is 5.155, which means that if the savings variable increases by 1 point, the income variable will increase by 5.155.

3.6 F Test

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,651E+15	2	8,257E+14	10,097	,000 ^b
	Residual	2,650E+16	324	8,178E+13		
	Total	2,815E+16	326			

a. Dependent Variable: PENDAPATAN

b. Predictors: (Constant), TABUNGAN, PARTISIPASI

FIGURE 3. f Test

The results of the F test can be seen using 2 ways, namely by comparing the value of F count and F table and seeing the significance value. From the results of statistical testing above, it is obtained a significance

value of 0.000 where the value of 0.000 < 0.05, which means that simultaneously the participation and savings variables have a significant effect on income.

3.7 T Test

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13142661,03	705165,909		18,638	,000
	PARTISIPASI	-238927,710	90071,294	-,176	-2,653	,008
	TABUNGAN	5,155	1,147	,298	4,493	,000

a. Dependent Variable: PENDAPATAN

FIGURE 4. T Test

Similar to the F test, the T test can also be seen in 2 ways, namely by comparing the value of T table and T count or by looking at the value of significance. From the results of statistical testing, it was obtained the participation significance value of 0.008 where the value of 0.008 < 0.05 and the t table value which indicates a negative direction. Next, the savings variable has a significance value of 0,000 where the value of 0,000 < 0.05 and the t table value which shows a positive direction, which means that savings have a positive effect on income.

4. DISCUSSION

4.1 The Effect of Customer Participation and Savings on Income

From the statistical test results above, it is obtained a significance value of 0.000 where the value of 0.000 < 0.05, which means that simultaneously the participation and savings variables have a significant effect on income.

4.2 The Effect of Customer Participation on Income

From the results of statistical testing, it was obtained the participation significance value of 0.008 where the value of 0.008 < 0.05 and the t table value which indicates a negative direction. This means that

participation has a negative effect on income. This can happen due to several things, including the large number of participants who take part in the waste bank program, it's just that the nominal income is very small. The level of participation of customers who are members of several groups of garbage banks in Pondok Pinang village is quite a lot, but in this case the participation of customers in collecting recyclable waste is nominal, this is because some types of limited items only come from household waste. collected. Therefore, participation has a negative effect on income.

4.3 The Effect of Customer Savings on Income

Next, the savings variable has a significance value of 0,000 where the value of $0,000 < 0,05$ and the t table value which shows a positive direction, which means that savings have a positive effect on income. Which means that if customer savings increase, an increasing income will be followed. In this study, it was found that the customers of the waste bank in the Pondok Pinang Village area actively collect household waste that can be recycled again, even though the amount and in terms of nominal value is small, they routinely deposit them to the waste bank management units to record them without It seems that small things if collected can become waste savings which they can nominal in money and can directly increase income for the waste bank itself. This is in line with the results of research from (Prayati & Kartika, 2018) which obtained results where savings have an influence on waste bank income.

5. CONCLUSION

Based on the results of research, the Waste Bank program promoted by Pondok Pinang Village, South Jakarta, brings benefits to the environment to be cleaner and to reduce the pile of garbage around the housing area of residents of Pondok Pinang Village. After the existence of this program, it has made people aware that waste can provide economic value for customers, which can increase people's income. Even though the results were not big, they felt helped by this program.

Meanwhile, the test results show that the participation of clients has a negative effect on waste bank income. This indicates that the participation of waste bank customers needs to be increased again by

making more efforts to collect waste that they may not only get from household waste but can be obtained from the environment where they live and work. Whereas the waste savings variable has a positive effect on income, this indicates that the greater waste savings will be able to increase the income of the waste bank in the garbage bank group in each Pondok Pinang village area.

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Place any acknowledgement here. The IOP format to be used for references. If possible reference management software such as zotero or mandeley.

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