

Separation and Utilization Of Household Waste Through Android-Based Online Message Gateway Assistant

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ABSTRACT

Garbage is a factual problem faced by urban areas in Indonesia. Overcoming the waste problem is not only the responsibility of the government, but there must be awareness and participation from the community. Organic waste is waste that can decompose or can be decomposed again with the help of other bacteria. Inorganic waste (dry waste), namely waste that does not decompose easily, such as plastic food packaging containers, paper, plastic toys and so on. The purpose is to find out the sorting and utilization of household waste through an Android-Based Online Message Gateway companion. The research method that the researcher uses is quantitative research. The research data used primary data that was taken directly by filling out the google form to housewives in Bujel Village from January 2021 to February 2021. The sampling technique used Accidental Sampling. The total sample of this study was 73 respondents. Characteristics of respondents based on age 34-44 years, as many as 33 respondents (45.2%). Meanwhile, the characteristics of respondents based on their education history were mostly high school as many as 29 respondents (39.7%). Before sorting waste with sufficient category, 34 respondents (46.6%). Meanwhile, before utilization with sufficient category, 47 respondents (64.4%). It is known that the respondents already know the method of sorting with a good category of 43 respondents (58.9%). And how to use the category enough 42 respondents (57.5%). Based on the results of the WilcoxonTest statistical test analyst above, it is known that Asymp.Sig. (2-tailed) is worth 0.00 because the value of 0.00 is smaller than <0.05 , it can be concluded that "Ha is accepted" This means that there is a difference between the results of the pre post and post test. The conclusion is sorting and utilizing household waste is the first to reduce waste, namely efforts to reduce waste generation. Second, reuse materials or materials so they don't become waste (without going through a processing process). The third is to recycle materials that are no longer useful into other materials or new goods after going through the processing process.

Keywords : Online Message Gateway, Waste Sorting, Waste Utilization

INTRODUCTION

Garbage is a factual problem faced by urban areas in Indonesia. Overcoming the waste problem is not only the responsibility of the government, but there must be awareness and participation from the community that has transformed into a Metropolitan city. The increasing population has the consequence of increasing the amount of waste, one third of which is not handled by the government (Sekarningrum et al., 2020).

Law Number 18 of 2008 states that the definition of waste is the residue of human daily activities and/or natural processes in solid form, while waste management is a systematic, comprehensive, and sustainable activity that includes waste reduction and handling. Currently, almost all developing countries have problems in waste management and using waste properly and correctly (Nugraha et al., 2018) including in Indonesia.

According to the definition of the World Health Organization (WHO) waste is

something that is not used, not used, not liked or something that is thrown away that comes from human activities (including industrial activities) but is not biological because human waste is not included in it and does not occur automatically (Harun, 2017).

Waste management can be defined as a field that deals with regulating the landfilling, (temporary) storage, collection, transfer and transportation, processing and disposal of waste in a manner that is in accordance with the best principles of public health, and other environmental considerations and also takes into account the attitude of society towards waste disposal. One example of waste processing is a controlled landfill, which is waste that builds up to about three meters and is then filled and compacted after a certain period of time is reached.(Aisa et al., 2018).

Based on the composition, the waste is divided into 60% organic waste, 15% plastic, 10% paper, and 15% metal, glass, cloth, leather. Organic waste is dominated by food waste (animal and vegetable products), vegetables, fruits, leaves, twigs, and animal and human waste. The organic waste, if not handled quickly, can become a source of disease, cause foul odors, disrupt the aesthetic value of the city or surrounding community, and reflect the government's and community's indifference to environmental hygiene and health.(Nugraha et al., 2018).

METHODS

The research method that the researcher uses is quantitative research. The sample collection technique uses Accedintal Sampling. Samples of housewives in Bujel Village in particular RT 05 RW 02 And RT 06 RW 02. The number of respondents in this study were 73 respondents. In this study using the Wilcoxon test. The data collected in the form of primary data taken directly by filling in via google form on housewives in Bujel Village from January 2021 to February 2021.

RESULTS

Characteristics of Respondents

Table 1 shows that of the 73 respondents who have the highest proportion of vulnerable ages, namely 34-44 years with as many as 33 respondents (45.2%). The highest proportion of education history is high school with as many as 29 respondents (39.7%).

Characteristics of Respondents	N	%
Age		
23-33 years old	16	21.9%
34-44 years old	33	45.2%
45-50 years	5	6.8%
51-55 years old	19	26.0%
Educational background		
No school	5	6.8%
SD	12	16.4%
junior high school	13	17.8%
senior High School	29	39.7%
DIPLOMA	9	12.3%
BACHELOR	5	6.8%

Variable Characteristics

Table 2 shows that the characteristics after sorting household waste in the Good category are 43 respondents (58.9%).

Variable Characteristics	N	%
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Before Sorting		
Not enough	17	23.3%
Enough	34	46.6%
Well	22	30.1%
After Sorting		
Not enough	2	2.7%
Enough	28	38.4%
Well	43	58.9%

Table 3 shows that characteristics after the use of household waste with category Enough 42 of respondents (57.5)%.

Variable Characteristics	N	%
Before Utilization		
Not enough	25	34.2%
Enough	47	64.4%
Well	1	1.4%
After Utilization		
Not enough	4	5.5%
Enough	42	57.5%
Well	27	37.0%

Wilcoxon Statistical Test Results

Table 4 Pre-Test and Post-Test Normality Test Results

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Pre-election	.229	73	.000	.851	73	.000
Election after	.243	73	.000	.882	73	.000
Prior use	.394	73	.000	.700	73	.000
Use after	.338	73	.000	.734	73	.000

In testing, a data is said to be normally distributed if the significance value is more than 0.05 (sig./p-value > 0.05). From the calculation of data analysis:

1. Sorting Before

- Kolmogorov smirnov p-value* = 0.000 < 0.05 then H_0 is rejected so that the data is not normally distributed.
- Shapiro-Wilk p-value* = 0.000 < 0.05 then H_0 is rejected so that the data is not normally distributed.

2. After Sorting

- Kolmogorov smirnov p-value* = 0.000 < 0.05 then H_0 is rejected so that the data is not normally distributed.
- Shapiro-Wilk p-value* = 0.000 < 0.05 then H_0 is rejected so that the data is not normally distributed.

3. Prior Use

- Kolmogorov smirnov p-value* = 0.000 < 0.05 then H_0 is rejected so that the data is not normally distributed.
- Shapiro-Wilk p-value* = 0.000 < 0.05 then H_0 is rejected so that the data is not normally distributed.

4. Use After

- Kolmogorov smirnov p-value* = 0.000 < 0.05 then H_0 is rejected so that the data is not normally distributed.
- Shapiro-Wilk p-value* = 0.000 < 0.05 then H_0 is rejected so that the data is not normally distributed.

normally distributed.

DISCUSSION

A. Identifying the Sorting and Utilization of Household Waste for Housewives in Bujel Village Before and After Application of Android-Based Online Message Gateway.

Based on the results of the research before sorting the waste that the researchers did, it was found that 73 respondents, most of the respondents were less than 17 with a percentage of 23.%. And enough respondents amounted to 34 with a percentage of 46.6%. And with a good respondent of 22 with a percentage of 30.1%. Based on the research after sorting the waste, the community has knowledge in the less category of 2 with a percentage of 2.7%. And enough respondents amounted to 28 with a percentage of 38.4%. while the good respondents were 43 with 58.9% respondents.

Based on the results of the research before the use of waste that the researchers did, it was found that 73 respondents, most of them were less than 25 with a percentage of 34.2%. And enough respondents amounted to 47 with a percentage of 64.4%. While the good respondents are 1 with a percentage of 1.4%. Based on the research after the use of waste, it was found that the respondents were less than 4 with a percentage of 5.5%. And enough respondents amounted to 42 with a percentage of 57.5%. While the good respondents are 27 with a percentage of 37.0%

Hearing the problem of garbage is no stranger to the community. Garbage itself can be interpreted as a pile of waste, dirt, or items that are not used and can cause a foul smell that stings the nose. Where the brief definition of waste itself is residual material or processes that can damage the environment. Cities which are densely populated areas usually produce a lot of waste, both from household waste, food waste, and others. Garbage itself can also be a bad impact on health and the environment if not addressed immediately.(Setyaji, Hidayat, Sukmaningrum, & Eve, 2013)In Indonesia, the waste problem is a complicated matter. This is due to a lack of understanding, understanding, knowledge about waste in the community, so that the cleanliness in the environment is not maintained due to waste. Another factor regarding waste is that the presence of trash bins available at TPS before being disposed of to the TPA is inadequate. (Padmita & Marwati, 2019).

B. Android-Based Online Message Gateway on Knowledge in the Sorting and Utilization of Household Waste to Housewives in Bujel Village, Kediri City

Android is open source, which means developers can modify and customize the OS for each phone. The android symbol or logo is in the form of a robot with two antennae on its head, which symbolizes that android is a symbol of high-end operating systems for gadgets and smartphones. Android also provides an open platform for developers to create their own applications for various uses. Android has also updated its version several times. (Kai, Sompie, & Sambul, 2018)

Based on the results of research from (Padmita & Marwati, 2019) shows that respondents aged 22-44 years are a productive age group in the sense that there is a learning process for behavior change, especially in waste sorting. In general, it is believed that there will be better knowledge about waste sorting. The older you get, the faster you will adapt to your environment. The district or city government can inform the entire community that the importance of sorting and utilizing waste properly in an effort to maintain public hygiene and health.

CONCLUSION

1. Based on the results of research on the Sorting and Utilization of Household Waste through an Android-Based Online Message Gateway Assistant in Bujel Village, Mojoroto

District, the following conclusions can be drawn:

- a. Based on the results of the research before sorting the waste that the researchers did, it was found that 73 respondents, most of the respondents were less than 17 with a percentage of 23.%. And enough respondents amounted to 34 with a percentage of 46.6%. And with a good respondent of 22 with a percentage of 30.1%. Based on the research after sorting the waste, the community has knowledge in the less category of 2 with a percentage of 2.7%. And enough respondents amounted to 28 with a percentage of 38.4%. while the good respondents were 43 with 58.9% respondents.
- b. Based on the results of the research before the use of waste that the researchers did, it was found that 73 respondents, most of them were less than 25 with a percentage of 34.2%. And enough respondents amounted to 47 with a percentage of 64.4%. While the good respondents are 1 with a percentage of 1.4%. Based on the research after the use of waste, it was found that the respondents were less than 4 with a percentage of 5.5%. And enough respondents amounted to 42 with a percentage of 57.5%. While the good respondents are 27 with a percentage of 37.0%
2. Based on the results of the WilcoxonTest statistical test analyst above, it is known that Asymp.Sig. (2-tailed) is worth 0.00 because the value of 0.00 is smaller than <0.05 , it can be concluded that "Ha is accepted" This means that there is a difference between the results of the pre post and post test.
3. Based on the results of the research above, it can be concluded that knowledge about sorting and utilizing waste is quite good. Just how can we build awareness again to know more about the good and bad impact on the problem of household waste for us. If the housewives of Bujel Village are active in sorting and utilizing waste, it will also have a good impact on the community around Bujel Village.

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