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EFFECTS OF SUSTAINABLE AWARENESS TOWARDS SUSTAINABLE PRODUCT PURCHASE DECISION

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ABSTRACT

Purchasing and using goods for daily necessities produce large amounts of waste. "Reduce, Reuse, Recycle" has become a well-known consumer waste management philosophy. Consumers are increasingly crucial in environmental protection efforts, and sustainable consumption is the epitome of environmental protection behavior. Sustainable awareness plays an important role in sustainable product purchase decisions. This research aims to determine the effects of sustainable awareness, such as reduce, reuse, and recycle, on sustainable product purchase decisions. This research uses quantitative methods to process the data associated with a phenomenon. The unit of analysis used is the individual, with a total of 487 valid responses. The Indonesian citizen population includes Baby Boomers, Gen X, Y, and Z. Primary data was obtained by filling out questionnaires. The sampling technique used was purposive sampling. Data analysis techniques in this study use multiple linear regression, the classic assumption test, the T-test and F-test, and the coefficient of determination using the SPSS software program. The results of this research states that there is significant positive effects of sustainable awareness, including reduce, reuse, and recycle, on sustainable product purchase decisions.

Keywords: *Reduce; Reuse; Recycle; Sustainable Awareness; Sustainable Product Purchase Decision*

1. Introduction

Our world is facing a lot of serious issues, such as climate change, the greenhouse effect, carbon emissions, natural resource depletion, energy resource limitations, and especially waste which has been a problem from time to time. Purchasing and using goods for daily necessities can produce large amounts of waste. These activities result in a tremendous number of products to fulfill human needs and a huge amount of waste within the environment as a result of used things being disposed of following human activities. In Indonesia itself, waste is also a crucial problem. According to the Indonesian Ministry of Environment and Forestry, the amount of waste produced in Indonesia is about 36.218.012,28 million tons per year, making Indonesia the 5th largest waste producer in the world. Most of the waste generated has not been managed properly, around 13.035.197,78 million tons per year. That is why we voiced sustainability so we can manage waste that is not managed properly.

More than 55% of Indonesians now reside in cities. By 2030, more than 73% of Indonesians will be living in cities, based on current rates of urbanization (UNDP, 2017). Indonesia has been confronted with severe issues with the management of municipal solid waste (MSW). MSW is commonly described as waste collected by municipalities or other local agencies. SWM is often used to both the official and informal sectors. In Indonesia, the formal sector comprises of municipal authorities and formal enterprises, whereas the informal sector consists of people, organizations, and small businesses participating in unregistered and unregulated activities. The informal sector in solid waste activities refers to recycling

operations carried out by scavengers (itinerant garbage pickers) and waste purchasers (Sembiring & Nitivattananon, 2010)

Sustainability is one of the most talked-about topics today. Sustainability is defined as a type of multigenerational ethics in which current environmental and economic behaviors do not reduce future generations' opportunity to enjoy equivalent levels of wealth, value, or welfare (Meadowcroft, 2023). Sustainability can emerge from consumers' conscious or unconscious activities connected to sustainable goods to balance consumption and reduce waste, minimizing their environmental impact and contributing to socially responsible choices in the local economy. People may be unwilling to do something sustainable if they lack knowledge about being green, despite concerns about sustainability and positive views toward the environment. When it comes to taking action, people may experience a range of opposing emotions, resulting in a lack of commitment to the green movement (Gravelines et al., 2022)

Some people assumed garbage could be buried or burned and done. Those methods threaten our environment. Societies worldwide now promote the three Rs: reduce, reuse, and recycle. These 3Rs are very important to reduce the impact of the amount of waste that is not managed properly. The "Three Rs" (Reduce, Reuse, and Recycle) is an easy way and also a better method to manage waste.

2. Literature Review

2.1 Sustainable Awareness

Sustainability is a term that is currently being voiced massively and on a global scale. Having awareness of this makes us understand more about sustainability and can be applied in our daily lives. Sustainability is addressing current demands without jeopardizing future generations' ability to meet their own needs. Sustainability awareness is the realization of using knowledge and facts that can be used to measure the worth of sustainability consciousness. This value includes several methods for determining how, why, and to what extent stakeholders comprehend the notion of sustainability and its dimensions. In this case, we conclude reduce, reuse, and recycle as a part of sustainability awareness.

Reduce, reuse, and recycle are a part of waste management, often known as 3Rs. This waste management attempts to decrease trash at the source, reduce excess waste production, reduce environmental damage, provide community benefits, and transform people's attitudes toward waste (Mahartin, 2023). The 3R concept for community-based waste management determines community participation. The community must shift from "throwing away" waste to "managing" waste (Sabihi et al., 2020).

Reducing the amount you buy is the most significant of all the options to manage waste. The key is to only purchase goods that we need and in the right amount. The process of reusing starts with the assumption that the used materials that flow through our lives can be a resource rather than a refuse. If we really look at things we are throwing away, we can learn to see them as materials that can be reused to solve everyday problems and satisfy everyday needs.

First, the reduction principle aims to reduce the amount of waste produced. This can be achieved by eliminating unnecessary items such as single-use plastic bags, drinking water bottles, and single-use food packaging. Instead, you can use reusable shopping bags, refillable water bottles, and reusable food packaging. By reducing the amount of waste, we can also reduce the negative impact on the environment. Second, the principle of reuse means we have to reuse what can still be used. For example, used glass and plastic bottles that can be reused to store drinks and food. You can also reuse waste paper as notes and notes. By reusing these items, you can reduce the amount of waste and also save money. Third, the principle of recycling means that you must use waste that can be recycled. Waste that can be recycled includes paper, plastic, metal, and glass. Recycling is the process of reprocessing waste into new raw materials that can be used to make new products. Recycling waste also reduces the

amount of waste sent to landfills and saves limited natural resources. Fourth, everyone can apply the 3R principles in everyday life. Start by paying attention to the type of waste produced and choosing the right disposal method. Separating organic and valuable waste makes waste disposal easier, for example. By applying the 3R principles, you can keep the environment clean and healthy.

In terms of recycling, people's existing stagnant practices need to be improved. Despite aggressive efforts, many materials still wind up in the garbage can and never receive a second chance to be reused. General material scraps and plastics are sources of surplus supply and waste. One of the biggest reasons people do not take the time to offer their materials a second life is a lack of convenience; nevertheless, if the opportunity to invest supplies to another was simple and close by, it would happen far more frequently. Therefore, the preservation and improvement of the environment can still attitudes toward or concern for the elements of the environment that improve the quality of life.

Sustainable Product Purchase Decision

According to (Kotler et al., 2016:198) the purchasing decision is the final stage or what could be called the evaluation stage for consumers after considering various factors. Sustainable products are defined as products that include positive social, environmental, and ethical (Luchs et al., 2010). Sustainable product is a product that is manufactured using non-toxic ingredients and environmentally friendly processes (Gurău & Ranchhod, 2005). Green products are those products that can add long-term benefits, and reduce and relieve consumers from their environmental responsibility, without reducing products' qualities (de Medeiros & Ribeiro, 2017). Greening of a product occurs throughout the product complete life-cycle from planning to manufacturing, storage, transportation, usage, and post-usage activities (Kumar & Ghodeswar, 2015).

Discoveries of the studies reveal that Indian citizens are willing to support environmental protection, activity environmental responsibilities, and seek information related to green products.(Kumar & Ghodeswar, 2015). Other studies reveal that sustainable purchase decisions of the consumers of the Dutch food industry depend on age, sustainable behavior, and perception of the usefulness of plastic (Núñez-Cacho et al., 2020).

Conceptual Framework

This research focuses on analyzing the effect of sustainable awareness (reduce, reuse, recycle) towards sustainable product purchase decisions in Indonesian citizens including Baby Boomers, Gen X, Y, and Z. The research used in this study is descriptive quantitative with a causal approach. This causal approach is used to determine the causal relationship from one variable to another.

The research and hypothesis conceptual model (figure 1) was constructed as follows.

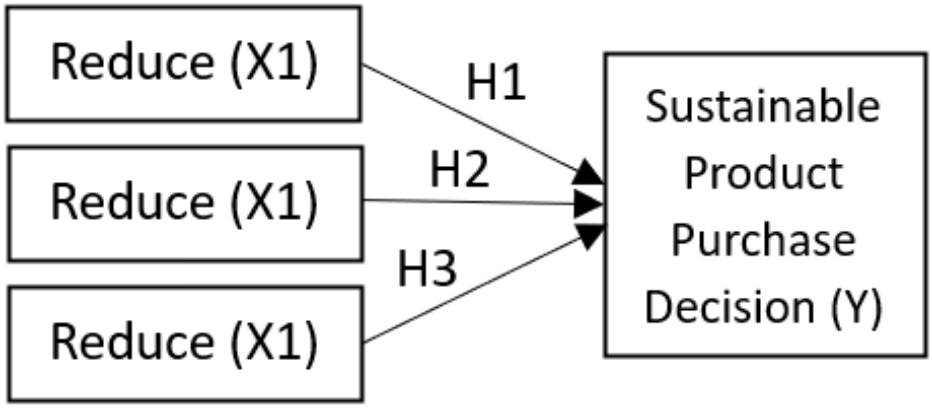

Figure 1 Conceptual Framework

Figure 1 shows that in this research we choose reduce, reuse, and recycle (3Rs) as a part of sustainable awareness. Eliminating single-use goods can reduce the amount of waste and also reduce the negative impact on the environment. The used goods can be another material resource to fulfill our needs. Reusing goods can reduce waste. On the other hand, you can also save money. Recycling means using waste that can be recycled by reprocessing waste into new raw materials to make new products. As a part of sustainable awareness, the 3Rs might influence sustainable product purchase decisions. People who do the 3Rs tend to have several preferences in purchase decisions, they prefer using sustainable products. The model tested in this study is "reduce has a positive and significant effect towards sustainable product purchase decision (H_1)", "reuse has a positive and significant effect towards sustainable product purchase decision (H_2)", and "recycle has a positive and significant effect towards sustainable product purchase decision (H_3)".

3. Research Methods

3.1 Population, Sample, and Procedure

This research was conducted by collecting and processing primary data sourced from respondents' answers through distributing questionnaires which were then interpreted in the research results. The population used in this research is all Indonesian people born in the baby boomer generation, generation X, generation Y, and generation Z. Meanwhile, the sample used was 487 respondents from Indonesian people who were born in the baby boomer, generation X, generation Y, and generation Z. Purposive sampling is used to determine a focus on relatively small samples and carried out based on certain considerations tailored to the research objectives (Sugiyono, 2021:133).

3.2 Data Collection Instruments (Measures)

Reduce (Rd): reducing goods that can cause waste. Three-item questionnaire was used for the Reduce. Reuse: reusing waste that still can be used. Three-item questionnaire was used for the Reuse variable. Recycle: recycling waste into raw material. Three-item questionnaire was used for the recycle. Sustainable product purchase decision: final stage for consumers after considering various factors in terms of sustainable products. Three-item questionnaire was used for the sustainable product purchase decision. These measures used a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

3.3 Data Analysis

Data analysis using IBM SPSS Statistics Version 25. Results of all variables in this research were established with validity and reliability tests, descriptive and correlation tests, multiple linear regression, the classic assumption test, the T-test and F-test, and the coefficient of determination.

4. Research Findings and Discussion

4.1 Validity & Reliability Analysis

First, we provide a validity and reliability test of sustainable awareness and sustainable product purchase decisions. Validity and reliability tests of sustainable awareness and sustainable product purchase decisions showed that each item of the questionnaire is valid and

reliable, as shown in the table below.

Table 1. Validity Test

Variable	Item	Sig (2 tailed)	Sig	Description
Reduce	X1.1	0,00	0,05	Valid
	X1.2	0,00	0,05	Valid
	X1.3	0,00	0,05	Valid
Reuse	X2.1	0,00	0,05	Valid
	X2.2	0,00	0,05	Valid
	X.2.3	0,00	0,05	Valid
Recycle	X3.1	0,00	0,05	Valid
	X3.2	0,00	0,05	Valid
	X3.3	0,00	0,05	Valid
Purchase Decision	Y1	0,00	0,05	Valid
	Y2	0,00	0,05	Valid
	Y3	0,00	0,05	Valid

Based on the output results in the table 1 it can be seen that the variables reduce, reuse, and recycle making have r count > r table, so it can be concluded that all statements used in the questionnaire are valid and can be used to continue research and test hypotheses.

Reliability testing is a tool for measuring a questionnaire as an indicator of a variable. A questionnaire can be said to be reliable if someone answers the statements consistently or stably. Reliability is measured using Cronbach Alpha. A variable can be said to be reliable if each item provides a Cronbach Alpha value > 0.60.

Table 2 Reliability Test

Variable	Cronbach's Alpha	r-Table	Description
Reduce	0,798	0,600	Reliable
Reuse	0,824	0,600	Reliable
Recycle	0,850	0,600	Reliable
Purchase Decision	0,801	0,600	Reliable

Based on the Table 2 you can see all the statements from the variables of reduce, reuse, recycle and sustainable products purchase decision can be said to be reliable because they have a Cronbach's Alpha value greater than > 0.60. It can be concluded that all items in this variable show a Cronbach's Alpha number > 0.60 so that the variables used in this research are reliable.questionnaire is valid and reliable.

4.2 Descriptive Statistics and Correlation

The respondents of this research are Indonesian citizens from the Baby Boomer, gen X, gen Y, and gen z. The total number of respondents was 487 respondents with different characteristics in the categories of gender, income, expense and domicile.

Table 3 Descriptive Analytics

Category	Frequency	Percentage
Gender		
Female	181	37,17%
Male	306	62,83%
Year of birth		
before 1965	30	6,16%
1966-1980	20	4,22%
1981-1996	29	5,85%
1997-2012	408	83,78%
Income		
< 1.000.000	193	39,93%
1.000.000-2.500.000	172	35,32%
2.500.000-4.000.000	62	12,73%
4.000.000-5.500.000	31	6,37%
5.500.000-7.000.000	7	1,44%
7.000.000-8.500.000	7	1,44%
8.500.000-10.000.000	4	0,81%
> 10.000.000	11	2,26%
Expense		
< 1.000.000	217	44,56%
1.000.000-2.500.000	203	41,68%
2.500.000-4.000.000	41	8,42%
4.000.000-5.500.000	9	1,85%
5.500.000-7.000.000	6	1,23%
7.000.000-8.500.000	2	0,42%
8.500.000-10.000.000	3	0,62%
> 10.000.000	6	1,23%
Domicile		
Bali	27	5,54%
Jawa	414	85,01%

Category	Frequency	Percentage
Kalimantan	10	2,05%
Maluku dan Papua	3	0,62%
Nusa Tenggara	13	2,67%
Sulawesi	4	0,82%
Sumatera	16	3,29%

Based on the Table 3 it can be seen that from the total 487 respondents, the majority were male, born in 1997-2012 with income < Rp 1,000,000, and expenses < Rp 1,000,000 and domiciled in Java Island.

4.3 Classic Assumption Test

4.3.1 Normality Test

The normality test is carried out to test whether in a regression model, an independent variable and a dependent variable or both have a normal or abnormal distribution.

Table 4 Normality Test

Monte Carlo Sig. (2-tailed)	0.224

Data is normally distributed because the Monte Carlo Significance (2-tailed) value is 0,224 greater than 0.05.

4.3.2 Multicolinearity Test

The multicollinearity test is carried out to identify whether there is a correlation between the independent variables in the regression model. In the multicollinearity test, it can be seen whether there is a high correlation between the independent indicators. In this research, a model can be said to be good if the tolerance value is > 0.10 and the Variance Inflation Factors (VIF) value is < 10.00. In the table 5, the tolerance value for each variable is > 0.10 and the VIF value is < 10.00. It can be concluded that multicollinearity does not occur. The following is a table of results from the multicollinearity test:

Table 5 Multicolinearity Test

Variable Independent	Tolerance	VIF	Description
Reduce	0,481	2,078	multicollinearity does not occur
Reuse	0,443	2,267	
Recycle	0,490	2,039	

4.3.3 Heteroscedasticity Test

The heteroscedasticity test in this study uses a Scatter Plot to test whether heteroscedasticity occurs or not. If the distribution pattern of residual points shows a wide pattern or spreads unevenly throughout the range of predictor values, then heteroscedasticity occurs. The following is a picture of the heteroscedasticity test:

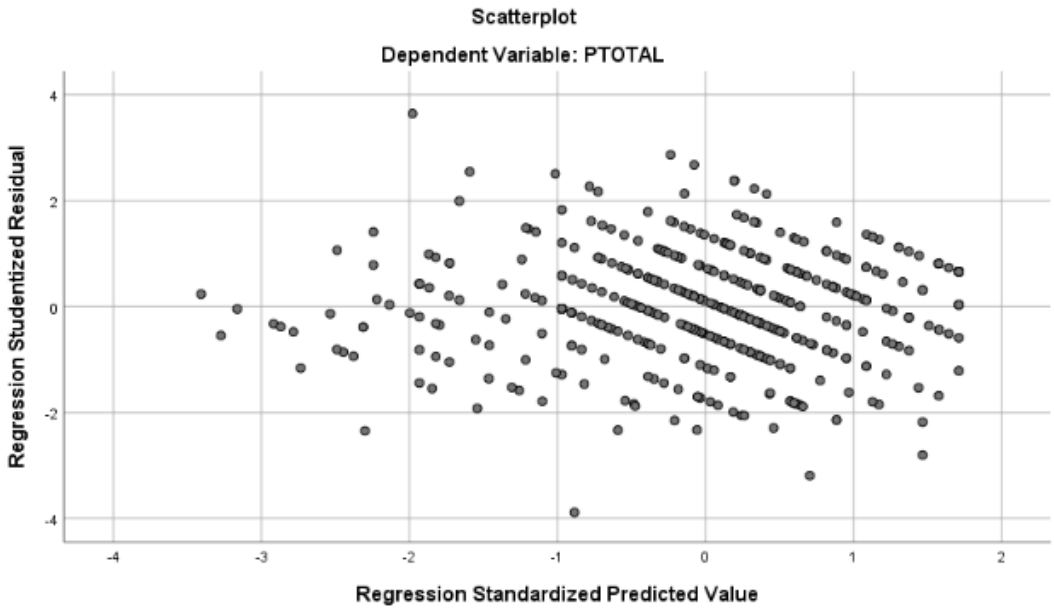

Figure 2 Heteroscedasticity Test

From the output of the heteroscedasticity test, it can be concluded that the dots on the output do not form a certain pattern so that this study does not occur heteroscedasticity.

4.4 Regression Analysis and Results Explanation

Multiple linear regression analysis is an analysis carried out to determine the value of independent variables whose number is more than one can affect the dependent variable. In other words, it shows the importance of an independent variable in the dependent variable. (Sekaran & Bougie, 2017:139) .

4.4.1 Coefficient of Determination

The coefficient of determination in linear regression is often interpreted as how great all independent variables in explaining the variance of the dependent variable. The results of the regression test are shown in the table below.

Table 6 Coefficient of Determination

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.750	0.562	0.559	1,612

Based on the results of the table above, the adjusted R coefficient of determination value is 0.559 or (55.9%). This shows that by using the regression model it is found that the sustainable product purchase decision are explained by the reduce, reuse and recycle. Meanwhile, 44.1% is explained by other variables.

4.4.2 F-Test

The F test is one of the statistical tests used in analysis of variance (ANOVA) to compare variances between two or more groups. The F test tests whether there is a significant difference between the group means. Following are the results of the F test:

Table 7 F-Test

Sig.	0,000

From the Table 7 the calculated F value is 206.689 with a significant value of 0.000 < 0.05(α), so reduce, reuse, and recycle together have an influence on sustainable product purchase decision.

4.4.3 T-Test

The T-test aims to find out whether the independent variable (X) partially (individually) has an effect on the dependent variable (Y). If the significance value (Sig.) <0.05 then there is an influence of the independent variable (X) on the dependent variable (Y). If the significance value (Sig.) > 0.05 then there is no influence of the independent variable (X) on dependent variable (Y). Following are the results of the T test:

Table 8 T-Test

Variabel Independen	Sig.
Reduce	0.000
Reuse	0.000
Recycle	0.001

Based on the Table 8 Sig. value of the reduce variable is 0,000 < 0,05, it means there is an effect of reduce towards sustainable product purchase decision. Sig. value of the reduce variable is 0,000 < 0,05, it means there is an effect of reuse towards sustainable product purchase decision. Sig. value of the reduce variable is 0,001 < 0,05, it means there is an effect of recycle towards sustainable product purchase decision.

4.4.4 Multiple Linear Regression Equation

Table 9 Multiple Linear Regression Equation

(Constant)	1.737
Reduce (X1)	0,446
Reuse (X2)	0,244
Recycle (X3)	0,124

$$Y = 1{,}737 + 0{,}446x1 + 0{,}244x2 + 0{,}124x3$$

There is a positive influence on the reduce, reuse, recycle. The reduce shows a unidirectional relationship with the sustainanle product purchase decision. The regression coefficient value of 0.446 means that for each additional variable of one unit, the dependent variable will increase by 0.446. The reuse shows a unidirectional relationship with the sustainanle product purchase decision. The regression coefficient value of 0.244 means that for each additional variable of one unit, the dependent variable will increase by 0.244. The reduce shows a unidirectional relationship with the sustainanle product purchase decision. The

regression coefficient value of 0.124 means that for each additional variable of one unit, the dependent variable will increase by 0.124.

5. Conclusion

This article studied what motivates people to buy sustainable products. All three proposed hypotheses were accepted. Reduce, reuse, and recycle all played a role in influencing people's decisions. They had a large positive direct effect on purchasing sustainable products, which is consistent with earlier studies (Núñez-Cacho et al., 2020).The data clearly demonstrated that sustainable awareness, specifically reduce, reuse, and recycle, is likely to affect individuals and have a key impact on the manifestation of purchase decisions.

This research can be a reference for marketers of sustainable products in developing their marketing strategies in Indonesia. The findings of this research indicate that sustainable awareness will lead to decisions to purchase sustainable products. Marketers must know consumer needs. In addition, marketers of sustainable products must offer consumers facts regarding the product's environmental performance or function, and its relevance to their sustainable lifestyle.

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