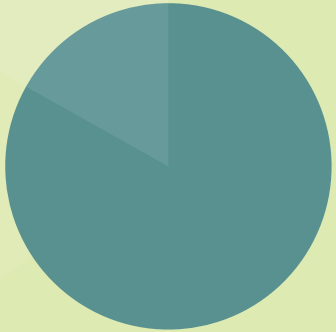
SELF INTRODUCTION



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- Salmahaminati, Salmahaminati & Husnaqilati, Atina & Yahya, Amri. (2017). Statistical *t* Analysis for the Solution of Prediction Trash Management in Dusun Tanjung Sari Kec. Ngaglik Kab Sleman, Yogyakarta. Journal of Physics: Conference Series. 795. 012046. 10.1088/1742-6596/795/1/012046.
- Husnaqilati, Atina & Utami, Herni & Danardono. (2018). Survival Analysis for Cancer Patient with Stacked Method. Advanced Science Letters. 24. 678-681. 10.1166/asl.2018.11786.
- Akama, Yohji & Husnaqilati, Atina. (2022). A dichotomous behavior of Guttman-Kaiser rule from equi-correlated normal population and the limiting spectral distributions of random matrices. Journal of the Indonesian Mathematical Society.

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Statistical *t* Analysis for the Solution of Prediction Trash Management in Dusun Tanjung Sari Kec. Ngaglik Kab Sleman, Yogyakarta

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Background

Padukuhan Tanjungsari, Sleman Yogyakarta is an area of considerable potential in the management of plastic and paper wastes. There is no optimal utilization of garbage. For these problem, trash management with statistical *t* analysis proposed to be a solution. Trash management is about collecting, sorting and managing the plastics and papers waste [1-2]. Plastic and paper waste could be recycled or made into other useful items such as the manufacture of bags, and other equipments according to our own creativity.

Aim

The focus of this study is to identify factors that influence people's to desire the waste. We applied multiple logistic regression and *t*-test analysis [3] for comparison the significant factors.

References

[1] Wagner SH, Gleskova JC, Sturm, and Suo 2000 Novel processing technology for Macroelectronics. InTechnology and applications of hydrogenated amorphous silicon, edited by R. A. Street. Berlin: Springer.

[2] Menell P 1990 Beyond the throwaway society: An incentive approach to regulating municipal solid waste. Ecology Law Quarterly 17: 655

[3] Walpole RE 1995 Introduction to Statistics 3rd edition Addison Wasley New York

Multiple logistic regression and *t* -test analysis

Multiple logistic analysis

Multiple logistic regression is a popular and widely used for analysis as the linear regression without the dichotomous outcome (e.g., success/failure or yes/no or died/lived). The outcome of the data 1 is dichotomous (yes or no). The model is given by

$$\log \frac{\pi_i}{1-\pi_i} = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \cdots + \beta_p x_{pi}$$

where *i* is the number of variable independent such that β_i is parameter of coefficient for i-th variable.

t -test analysis

The *t*-test for different mean between two dependent population uses *t* distribution where the data has amount samples. The formula is given by

$$t = \frac{\overline{X}_D - \mu_0}{\frac{s_D}{\sqrt{n}}}$$

where the first term is the different of samples mean, the second term is hypothesis difference mean of population, and S_D is the standard deviation of the difference of sample.

Result

The first analysis for surveys

The survey is the motivation and the score of trash management. It has been done in Padukuhan Tanjung Sari Kec. Ngaglik Kab Sleman, Yogyakarta.

The dependent variable is **binary score of motivation to trash management (1: high motivation, 0: low motivation)**. Moreover, the independent variables are **age, education, self -opinion, and economics**.

Logistic regression analysis used to know about the main factor that influence the motivations with the outcome of two defined options by multiple independent variable.

Result of the first analysis

Table 1. P value of independent variable

Variable	P value
Age	0.5627
Education	0.0279
Self-opinion	0.39
Economic	0.5095
Intercept	0.1358

Table 2. P value of Education and intercept of influence motivation trash management

Variable	P_value
Education	0.0208
Intercept	0.0489

Table 2 shows that education is the main factor that influence the motivation for trash management. From this research, It could be concluded that socialization for trash management would be focus in education problem.

Result and conclusion

The second analysis of survey

The second analysis in this survey is about management trash that has been done in Dusun Tanjung Sari Kec. Ngaglik Kab Sleman where the first scores is from the first analysis before the socialize of trash and the second score is after socialize of trash.

The *t*-test analysis is used to know about the differences between two surveys. It is t-test analysis for two dependent population.

H_0: there is no different between two populations

H_1: there is different between two populations from the

The p-value of this analysis is 0.7131. Since significant error is 0.05, it can be concluded from the two surveys that socialization of trash management do not have significant influence for the people.

Conclusion

The *t*-test analysis is used to know about the differences between two surveys. It is t-analysis for two dependent population. By the result of t-test it can be concluded from the two surveys that socialization of trash management do not have significant influence for the people.