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Factors Influencing Ecopreneurship Development in the Plastic Waste Handicraft Sector in Surabaya City"

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ABSTRACT

Waste is one of the major problems for society because its impact is very severe if not handled properly. But not many residents can see the enormous economic potential of waste, which could yield multiple profits if it is creatively processed into various recycled products, commonly called ecocrafts. Ecopreneurship embodies the capacity to identify everyday community challenges and transform them into viable business opportunities that simultaneously address environmental issues. This study aims to examine how environmental, personal, and social factors affect the development of ecopreneurship in Surabaya's plastic waste handicraft sector. Using a quantitative approach with a sample of 30 ecopreneurs and SPSS-based analysis, results show that environmental and personal factors significantly influence ecopreneurship, while social factors do not. These findings suggest that individual motivation and external environmental conditions play a more critical role than community support. The study provides useful insights for local policy makers to strengthen support for sustainable entrepreneurship."

Keywords: Ecopreneurship, Ecopreneur, Handicraft, Plastic Waste, Surabaya

INTRODUCTION

As people carry out activities to meet various needs, waste will be generated. Waste is also produced from industrial activities in producing goods and services needed by a country's population. Waste generated from household and industrial activities consists of organic and non-organic waste. Non-organic waste, especially plastic waste, tends to increase in line with the increasing pace of modern life, which tends to favor a practical lifestyle. Besides lifestyle changes, rising income levels also encourage increased consumption of goods and services. A rise in the demand for goods and services also leads to greater waste accumulation. In addition to the two factors above, the increase in waste is also caused by population growth. Plastic waste has now become a problem for people all over the world, especially for those living in big cities. Referring to the data in Table 1, Indonesia is the runner up as a contributor of plastic waste in the world, with China in first place. Every year, more than 11 million tons of plastic pollution enter the marine environment worldwide. The rate of pollution could triple by 2040 if countries do not make changes with effective interventions, including in urban areas. Surabaya currently produces 111,300 tons of plastic waste annually, and 2% of it enters local rivers and seas. Although the

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percentage is small, it is equivalent to millions of plastic items, most of which will end up in the sea (**https://www.unescap.org**).

Table 1 Five Countries Producing The Most Waste In The World

Rank	Country	Percentage of mismanage waste (%)	Amount of mismanaged plastic waste (million metric tons/year)	Percentage of Mismanaged Plastic Waste (%)
1.	China	76	8,82	27,7
2.	Indonesia	83	3,32	10,1
3.	Philippines	83	1,88	5,9
4.	Vietnam	88	1,83	5,8
5.	Sri Lanka	84	1,59	5,0

Source: http://www.cnnindonesia.com

Indonesia's coastal communities, home to roughly 187.2 million people, produce an estimated 3.22 million tons of plastic waste each year. However, existing waste management infrastructure is insufficient to address this considerable volume effectively. As a result, it is believed that between 0.48 and 1.29 million tons of plastic waste from these areas may enter the marine environment, contributing significantly to ocean pollution (Ardhani, et.al, 2020).

Waste is one of the major problems for society because its impact is very severe if not handled properly. Therefore, The Indonesian government has issued regulationsPresidential Regulation Number 83 of 2018 concerning the Handling of Marine Waste and Presidential Regulation Number 97 of 2017 concerning the National Policy and Strategy on Household Waste Management and Waste Similar to Household Waste. In response to waste management challenges, Indonesia aims to achieve a 30% reduction in waste and a 70% processing rate by 2025 (**https://www.unescap.org**).

Surabaya, the capital of East Java Province and Indonesia's second-largest city, also experiences similar issues. As a major hub for commerce, trade, industry, and education in Eastern Indonesia, Surabaya faces challenges related to waste management, including plastic waste generated by its large population and industrial activities. This situation underscores the broader environmental concerns affecting urban coastal and inland areas across the country. Surabaya Municipality population for 2024 were 3.02 million people and its population density reached 8,995 people/km2. Surabaya has a land area of 350.4 km^2 and a sea area of 190.39 km^2 (https://surabayakota.bps.go.id}. With a population of around 3 million and as a city of trade and industry, Surabaya certainly faces waste management problems, especially plastic waste (Khamimah, 2021).

Based on this reality, various efforts involving several parties are actively being carried out to reduce the amount of plastic waste. Waste can be handled in a thorough and integrated manner from start to finish, following principles that prioritize environmental sustainability. This approach helps prevent negative effects on both public health and the natural environment. In addition, waste can also be economically beneficial and serve as a means to change community behavior. Dealing with waste is intended to foster a stronger sense of environmental responsibility among residents, motivating them to participate in conservation initiatives. Appointed environmental cadres continue to promote the socialization of waste management, especially household waste. Every neighborhood association (RT) has been strongly encouraged to have a waste bank in recent years. Non-organic (dry) waste, mostly plastic, is collected periodically at designated places. The collected non-organic waste is sometimes sold directly to waste collectors or scavengers. The funds obtained from the sale of non-organic waste go into the local PKK (Family Welfare Movement) or RT treasury (Khahimah, 2021).

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Not many residents can see the enormous economic potential of waste, which could yield multiple profits if it is creatively processed into various recycled products, commonly called ecocrafts. Plastic waste from coffee, milk, other sachet drinks, instant noodles, soy sauce, as well as used wrappers for laundry soap, dish soap, fabric softener/fragrance, floor cleaner, and others can be engineered into various functional items. Ecocrafts produced include water bottle holders, pencil cases, lunch bags, cosmetic pouches, women's bags, school bags, travel bags, multipurpose bags, folders, tablecloths, and more. Ecocrafts made from plastic waste have a fairly high selling value. The handicraft business using plastic waste has several positive impacts. First, it reduces the amount of plastic waste, so environmental pollution problems can be addressed. Second, it becomes an additional source of income, thus improving family welfare. Ecocraft activities can empower women around the ecocraft business location, providing them with additional skills and new sources of income. Third, it creates new job opportunities that can reduce unemployment. Fourth, it becomes a source of income for the entrepreneurs (ecopreneurs), thereby improving their standard of living.

Ecopreneurship embodies the capacity to identify everyday community challenges and transform them into viable business opportunities that simultaneously address environmental issues. As a subset of entrepreneurship, ecopreneurship involves business activities driven by sustainability principles. An ecopreneur is thus defined as an entrepreneur whose business practices are rooted in and promote environmental sustainability. (Kirkwood and Walton, 2010 in Masjud, 2020). According to (Zimmerer (1996), as cited in Echdar (2013)., entrepreneurship entails applying creativity and innovation to identify and respond to problems and opportunities that arise in everyday life. Ideas, willingness, and initiative are born from the challenges or problems faced daily. These challenges make people think creatively and act innovatively so that these challenges can be overcome and solutions found. Through entrepreneurial values, it is hoped that the creativity and ability of the community to channel ideas and creativity will increase by utilizing available resources around them. In this way, entrepreneurship becomes one of the driving factors for improving Indonesia's economy and the welfare of its citizens. To prevent waste from negatively affecting both people and the environment, ongoing initiatives to minimize waste generation and promote awareness of environmentally conscious entrepreneurship remain essential. Through ecopreneurship, it is hoped that the socioeconomic conditions of the Indonesian population will improve, thus creating a prosperous society. In this regard, policymakers should continue to strive for the emergence of new ecopreneurs. These ecopreneurs, with all their creativity, will reduce plastic waste problems while increasing the income of people around their businesses. According to Nugroho as referenced by (Lubis, 2015)., ecopreneurial action is shaped by three key factors: environmental, social, and economic considerations. These drivers work together to identify viable business opportunities that not only yield commercial benefits but also generate positive environmental outcomes. According to (Lubis, 2015)., environment, social, and economic are the main drivers in increasing the ecopreneur community group. This concept is called the triple drivers of ecopreneurship. This means that in practice, ecopreneurship is not only about profit, but also about realizing a prosperous society and a better environment. This is consistent with the view of Dixon & Clifford (2006) referenced by (Wahyuni, et.al, 2016).), who emphasize that ecopreneurship encompasses three key dimensions: society, economy, and ecology.

The dangers of plastic waste are quite high for human survival. Therefore, various serious efforts are needed from various parties to manage it. Because, in addition to the dangers it poses, plastic also has promising potential to be developed as creative products and services. Creative activities using plastic waste can also become a community empowerment movement and expand job opportunities, opening up possibilities for improving community welfare (Putra & Yulianda, 2010).

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As stated above, to address the problem of plastic waste while increasing community income, several parties must be involved. These three driving factors will have a stronger impact on the development of ecopreneurship if the government is involved. Through its authority, the government can set various policies to encourage the emergence of new ecopreneurs. Entrepreneurship involves using creativity and innovation to address everyday challenges and capitalize on new opportunities that individuals encounter. ((Khamimah, 2021). Suryana (2001) in Gumelar (2014)). argues that entrepreneurship develops and begins with innovation. Innovation is influenced by environmental, personal, and social factors. Based on the available data on waste management in Surabaya and the growing need to promote waste reduction and raise awareness about environmentally responsible entrepreneurship, conducting this research in Surabaya is essential.

1. Problem Formulation

   Refer to the background information, the following research questions emerge:

   a. Do environmental factors influence the development of ecopreneurship?
   b. Do personal factors influence the development of ecopreneurship?
   c. Do social factors influence the development of ecopreneurship?

2. Research Objectives

   In relation to the research questions above, this research aims to:

   a. Analyze the influence of environmental factors on the development of ecopreneurship.
   b. Analyze the influence of personal factors on the development of ecopreneurship.
   c. Analyze the influence of social factors on the development of ecopreneurship.

3. Research Benefits

   This research is expected to provide the following benefits:

   a. Theoretical contribution.

      This research is expected to provide additional information regarding the development of ecopreneurship through environmental, personal, and social factors in handicraft businesses from plastic waste in Surabaya. In this regard, the findings of this study can be used for further research.

   b. Implications for policy.

      The findings of this research are expected to provide input or serve as material for consideration for policymakers in formulating regulations and programs related to the development of ecopreneurship, especially concerning the handling of plastic waste.

LITERATURE REVIEW

1. Plastic Waste

As people's activities become more modern and complex, the need for a practical lifestyle continues to increase. Plastic is the main choice to meet daily needs because it is lightweight and more affordable than other materials. The increasing demand has caused many plastic factories to emerge, which ultimately contributes to the increase in the amount of plastic waste and causes environmental problems. According to (Kumar, 2011 in Tiara, 2018)., plastic is a macromolecule resulting from the polymerization process, namely the combination of several simple molecules (monomers) through chemical reactions into large molecules (polymers). Plastic is composed of carbon and hydrogen elements, with naphtha—a product of petroleum or natural gas distillation—as one of its main raw materials. Plastic is widely used to make household appliances, automotive, and so on. However, after being used, plastic turns into waste that is

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difficult to decompose. According to Surabaya City Regional Regulation Number 5 of 2014, waste is defined as solid residues resulting from human activities or natural processes, encompassing plastic waste produced from non-renewable chemical substances. (https://jdih.surabaya.go.id).

Plastic waste falls under the category of inorganic waste, which breaks down very slowly in the soil—often taking between 50 and 80 years. The issue of waste, particularly plastic, is a nationwide concern that demands focused attention and management, as it can contaminate the environment, generate unpleasant odors, and contribute to the spread of various diseases. Currently, plastic waste is generally only disposed of in landfills, burned, or recycled, but these methods have not completely solved the problem of plastic waste. (Yani, 2021).Waste is often considered annoying, dirty, smelly, difficult to decompose, spoils the view, endangers health, and even causes flooding (Amminudin, 2019). This waste problem is very important, it can even be called a cultural problem because of its broad impact, especially in big cities such as Jakarta, Surabaya, Bandung, Medan, Palembang and Semarang (Putra & Yulianda, 2010). One of the impacts of population growth is the increasing volume of waste produced (Fahmi, 2021).

2. Ecopreneurship

Over the past two decades, entrepreneurship studies have seen the rise and broad acceptance of concepts such as green entrepreneurship, ecopreneurship, enviropreneurship, and sustainable entrepreneurship. These terms began to emerge since the UNEP declaration in Stockholm in the early 1970s, which emphasized the importance of environmental protection in human activities (Photour & Phani, 2019). The United Nations Organization (2011), as cited in Saleem et al. (2018), recognizes eco-friendly entrepreneurship as a strategic intervention and a catalyst for economic development, with the eco-entrepreneur playing a central role in this process. Furthermore, Mbebeb (2012) in Saleem et al. (2018) argues that ecological entrepreneurship is one of the key drivers of a green economy.

Ecopreneurship itself is a combination of the words ecological (the science of the relationship between living things and their environment) and entrepreneurship. This concept emphasizes entrepreneurship that is not only oriented towards financial gain, but also cares about the environment. Since the 1990s, ecopreneurship has been widely recognized as a form of environmental entrepreneurship. As defined by (Gwyn Shucyler, 2018)., ecopreneurs are entrepreneurs whose business activities are motivated not only by profit but also by a commitment to environmental considerations. Also called eco-capitalism, ecopreneurship is a market-oriented method of identifying and capitalizing on opportunities to boost environmental health and sustainability while also securing financial returns. According to Kirkwood and Walton (2010) in Masjud (2020),). ecopreneurs are entrepreneurs who operate their businesses based on the principle of sustainability, not only pursuing short-term profits but also contributing to environmental preservation. Djajaningrat in Untari (2013). added that sustainable development must pay attention to ecological, economic, socio-cultural, political, resilience, and security aspects. Sasangko & Anggawitdka (2016). stated that ecopreneurs are individuals or companies who are creative and innovative in integrating environmental issues into their core business. An ecopreneur must be responsive to environmental issues and be able to incorporate them into the business to make a profit. In general, ecopreneurship is environmentally conscious entrepreneurship. Traditionally, environmentally conscious business management focuses on efforts to make the company more environmentally friendly (green corporate). Ecopreneurs invest their ideas, effort, and time in developing strategies that enable their businesses to expand sustainably while maintaining a strong commitment to environmental responsibility (Sukoco & Muhyi, 2015).

The community also needs to be encouraged to have an entrepreneurial spirit, so that they do not only rely on one source of income and can utilize used goods into products of economic

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value ((Prayogi, 2022). According to Koe and Majid (2014) as cited in Saleem et al. (2018), researchers acknowledge that the intention to engage in ecological entrepreneurial activities can be influenced by social, cultural, and environmental norms. Additionally, economic interests characterized by aggressive and unsustainable consumption patterns sometimes affect these intentions. Suryana (2001) in Gumelar (2014)). said that entrepreneurship develops from innovation, which is influenced by personal, environmental, and social factors:

a. Personal factors: include achievement, tolerance, locus of control, commitment, risk taking, personal values, education, experience, age, and dissatisfaction.
b. Environmental factors: include opportunities, competitors, role models, activities, incubators, resources, and government policies.
c. Social factors: include family background, parents, and group networks that influence entrepreneurship.

3. Environmental Factors

The environment referred to here is the living environment. Humans and the living environment have a reciprocal relationship and influence each other. A good living environment will provide a good life for humans. Conversely, if the living environment is bad, it will have a negative impact on human life. The good or bad quality of the living environment depends on human behavior in the surrounding environment. This causal relationship requires the community to participate in maintaining environmental management.

According to Law Number 32 of 2009 of the Republic of Indonesia, the living environment refers to an integrated space that incorporates all its components—such as physical objects, natural forces, environmental conditions, living organisms, human beings, and their activities—which together affect the natural world, the continuity of life, and the welfare of both humans and other living creatures (https://www.ngada.org). The safeguarding and management of the living environment are carried out in a systematic and coordinated manner, with the objective of preserving its essential functions and preventing environmental pollution or damage. This comprehensive approach involves planning, utilization, regulation, maintenance, oversight, and the enforcement of legal measures. Based on the definition above, the community should participate in maintaining environmental conditions so that they have a positive impact on people's lives. Environmental conservation efforts must continue to be carried out in various ways and involve many parties.

4. Personal Factors

Each individual has their own personality and becomes a personal factor related to this individual. Personality is a character that is reflected in a person. A person's personality is formed since he was born. For example, personality influences an individual's choice of work. Does his choice match his personality so that he is more comfortable at work (Irdiana, et.al, 2017).

In the personality of each individual there is courage, self-confidence, task and result orientation, dare to take risks, leadership, originality and forward-looking. An individual's personality influences his decision to choose a job and he will be comfortable working if this job matches his personality (Syaifudin, 2017). Personality is an overall psychological quality that is inherited and acquired in a distinctive way that makes a person unique. Personality is nothing other than a person's character or traits, style or distinctive traits that come from the formation of the environment. Personality is also called a series of assumptions related to the quality of human behavior along with its empirical definition. An individual who chooses a profession is

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essentially related to his personality, including the choice to become an entrepreneur (Anding, et.al, 2019).

Personality is a unique character formed by the environment. An individual is considered interested in entrepreneurship can be observed from the personality side such as character, attitude and behavior. There are at least six important elements attached to these individual characteristics. These six elements are self-confidence, results-oriented, dare to take risks, leadership, originality (innovation, creativity, flexibility), and future-oriented (Sari, 2018).). Departing from the definition above, it is concluded that personality is a characteristic and character that comes from within a person, which is reflected through the style and behavior that makes a person different and unique. The formation of a person's character and nature or nature comes from the environment in which this individual lives. Self-confidence, courage, results-oriented and future-oriented, leadership, and dare to take risks are the characteristics of a person's personality. In this study, the indicators for personal or individual factors are drawn from (Suryana 2001 in Ghumelar, 2014).which include locus of control, tolerance for ambiguity, willingness to take risks, personal values, educational background, experience, age, commitment, and dissatisfaction with the status quo

5. Social Factors

According to KBBI, social is related to society or social characteristics that pay attention to the public interest (https://kbbi.web.id). John Elkington in 1997 introduced the concept of the triple bottom line which states that running a business must pay attention to 3P, namely Profit, People and Planetquoted from Arafat in Untari, 2015. Profit, People and Planet represent economic, social and environmental factors. People in this case are interpreted as social factors, namely society as one of the stakeholders for a business. Society is the closest environment of a business that contributes to the operation of a business. Thus, entrepreneurs should provide a return contribution to the surrounding community. The social factor indicator refers to Suryana namely trigger factors originating from the social environment including family origin, parents, group networks that greatly determine entrepreneurship. (Suryana 2001 in Ghumelar, 2014)

6. Previous Researches

a. (Masjud, 2020). conducted a study on the role of ecopreneurship as a solution to solving environmental problems and its implications for entrepreneurship education at universities.
b. (Saleem et all, 2018), the study examined the intentions to adopt ecopreneurship while extending the theory of planned behavior model by including the dual moderating role of collectivism and altruism in developing country.
c. (Lubis, 2015). studied three drivers of environmentally conscious entrepreneurial actions to carry out waste recycling habits in the city of Bandung.
d. (Sukoco & Muhyi, 2015). studied the role of ecopreneurship in growing environmentally conscious businesses in the Sukaregang leather tanning industry center, Garut Regency.
e. (Urtani, 2013). examined the importance of ecopreneurship in the concept of sustainable development. This study recommends the application of the ecopreneurship concept and builds an understanding that entrepreneurial activities should also pay attention to aspects of sustainability in terms of ecology, economy and social.
f. (Schuyler, 1997). examined the importance of combining economic and environmental interests through ecopreneurship.

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7. Conceptual Framework and Hypothesis Development

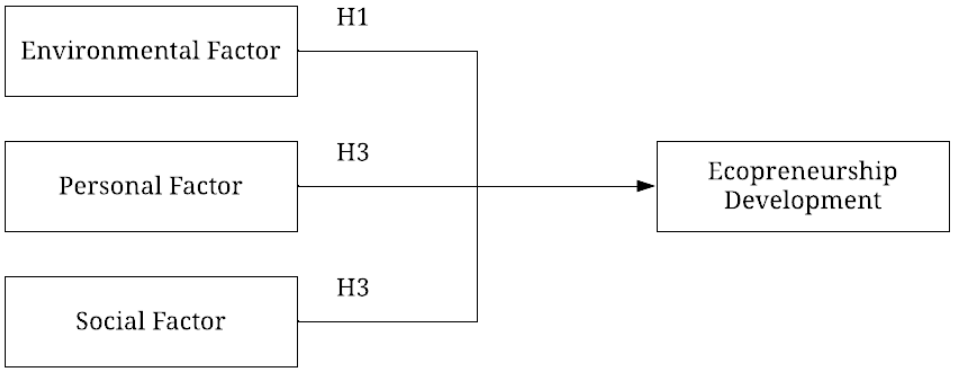

Figure 2. 1 Conceptual Framework of Variable Relationships

8. Hypothesis

Based on the research objectives and the proposed model, the research hypotheses are as follows:

1. There is an influence of environmental factors on the development of ecopreneurship.
2. There is an influence of personal factors on the development of ecopreneurship.
3. There is an influence of social factors on the development of ecopreneurship.

METHODS

This study employs a quantitative research approach to investigate the relationships among three key factors that drive the growth of ecopreneurship within the plastic waste handicraft sector in Surabaya. The quantitative method was selected to enable statistical analysis of numerical data, which helps elucidate the connections between these factors. Both primary and secondary data sources are utilized. Primary data is collected directly from ecopreneurs in Surabaya who utilize plastic waste as their primary material for crafting. Secondary data is gathered from relevant literature, including books, scientific journals, conference proceedings, and seminar papers. The study population consists of plastic waste handicraft producers located in the Jambangan and Gubeng Kertajaya districts of Surabaya, totaling 30 individuals, all of whom are included as research samples. According to the Department of Engineering Physics at the Sepuluh Nopember Institute of Technology in Pujiati (2025), if the population being studied is very homogeneous (having similar characteristics), a small sample size is sufficient to represent that population. The respondents in this study are homogeneous, specifically handicraft makers using plastic waste. Data collection is carried out using questionnaires as the main instrument for gathering quantitative information.

Operational Definition of Variables

1. Ecopreneurship

What is meant by ecopreneurship in this study is an environmentally conscious entrepreneurial process. The ecopreneurship assessment indicators refer to (Lubis, 2015)., namely: attitudes, skills and behaviors that focus on environmental, social and economic values in utilizing plastic waste.

2. Environmental Factors

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What is meant by environmental factors is a person's interest, willingness and knowledge to utilize plastic waste because of their concern for the environment. The environmental factor assessment indicators refer to Moore(Budiono & Setyawasih, 2016).namely:

a. Opportunities
b. External role models (efforts to recycle plastic waste in reducing environmental problems)
c. Creativity (willingness to utilize plastic waste)
d. Competition
e. Resources (Input resources)
f. Incubator
g. Government policy

3. Personal Factors

What is meant by personal factors in this study is the character of an individual that is reflected in a person. The indicators used to measure personal factors in this study refer to Moore (Budiono & Setyawasih, 2016).namely:

a. Knowledge
b. Experience
c. Personal value
d. Achievement
e. Risk Taking
f. Job loss
g. Job dissatisfaction
h. Age
i. Commitment

4. Social Factors

Social factors in this study are community actions including joint commitments to create a clean and green residential environment. Social factor assessment indicators are: willingness to inform neighbors about the importance of recycling plastic waste, desire to participate in collecting plastic waste regularly and knowledge about the need for mutual cooperation in recycling plastic waste. The indicators used to measure social factors in this study refer to Moore (Budiono & Setyawasih, 2016).namely:

a. Networks
b. Teams
c. Parents
d. Family
e. Internal Role models

5.Methods for analyzing data

This research utilizes multiple regression analysis for data processing, conducted through IBM SPSS 20.0.. According to (Wiyono, 2011:111).after the instrument is completed, it must be ensured that the instrument can actually measure the concept being measured and accurately.

Validity and Reliability Test

A valid instrument is one capable of accurately measuring the intended construct. In contrast, an instrument is considered reliable if repeated measurements of the same subject, under varying conditions of time and location, consistently yield similar results (Wiyono, 2011:

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111). To assess validity, each item's score is correlated with the total score of all items. The suitability of an item is established by examining the significance of the correlation coefficient, using a significance level of 0.05. In practical terms, an item is deemed valid if its correlation with the total score is statistically significant (Wiyono, 2011:112).. The validation procedure involves comparing the calculated correlation coefficient (r count) to the critical value (r table): if r count ≥ r table, the item is considered valid, as it correlates significantly with the total score; if r count < r table, the item is deemed invalid due to insufficient correlation. For reliability testing with a significance level of 0.05, the instrument is judged reliable if the Cronbach's alpha value exceeds the critical value of the product moment correlation coefficient.

Classical Assumption Test

This study conducts several classical assumption tests to validate the regression model, including tests for multicollinearity, heteroscedasticity, and normality. These diagnostics are essential to ensure that the underlying statistical assumptions are met and that the results are robust and reliable

a. The multicollinearity test is conducted to identify whether independent variables in a regression model are correlated with each other. For a regression model to be reliable, independent variables should ideally be uncorrelated. To assess multicollinearity, several approaches are used:: a) A model with a very high R^2 value but insignificant effects from the independent variables may indicate multicollinearity. b) If any value in the correlation matrix between independent variables exceeds 0.90, this suggests multicollinearity. c) Multicollinearity is also present if the tolerance value is less than or equal to 0.10, or if the variance inflation factor (VIF) is equal to or greater than 10.
b. The heteroscedasticity test is performed to determine whether the variance of residuals differs across observations within a regression model. For a robust regression model, homoscedasticity—meaning equal variance among residuals—is essential. Heteroscedasticity can be identified as follows: Plot analysis: examine a scatter plot of the residuals. If the points display a specific pattern, such as forming a wave or widening and narrowing, this indicates heteroscedasticity. Conversely, if the points are randomly dispersed above and below zero on the Y-axis, heteroscedasticity is not present
c. The normality test is used to determine whether the residuals (error terms) in a regression model are normally distributed. Both t-tests and F-tests are based on the assumption that residuals follow a normal distribution; if this assumption is not met, the validity of these statistical tests may be compromised, especially for smaller sample sizes (Ghozali, 2018: 161). To assess the normality of residuals, researchers can use graphical methods and statistical tests.

RESULTS

1. Test Results for Data Quality

Validity and Reliability Test

From the calculation results for the validity test, it was obtained that the statements for all dependent and independent variables had a calculated r value > r table, so it can be concluded that all questions in this study were declared valid. The sample in this study was 30, so it can be determined that r table (df) = n - 2 = 30 - 2 = 28, df = 28 and alpha = 0.05 obtained a value of 0.361. The calculated r value > r table (0.361). The following is a description of the intended results:

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Tabel *2* Validity Test Results

Variable	Item statement	r count	r table (α = 5%)	Description
Ecopreneurship development	ECO1	0,509	0,361	Valid
	ECO2	0,772	0,361	Valid
	ECO3	0,859	0,361	Valid
Environmental Factor	FL1	0,673	0,361	Valid
	FL2	0,539	0,361	Valid
	FL3	0,861	0,361	Valid
	FL4	0,707	0,361	Valid
	FL5	0,729	0,361	Valid
	FL6	0,614	0,361	Valid
	FL7	0,720	0,361	Valid
Social Factor	FS1	0,885	0,361	Valid
	FS2	0,913	0,361	Valid
	FS3	0,845	0,361	Valid
	FS4	0,782	0,361	Valid
	FS5	0,855	0,361	Valid
Personal Factor	FP1	0,756	0,361	Valid
	FP2	0,626	0,361	Valid
	FP3	0,720	0,361	Valid
	FP4	0,724	0,361	Valid
	FP5	0,756	0,361	Valid
	FP7	0,748	0,361	Valid
	FP8	0,807	0,361	Valid
	FP9	0,737	0,361	Valid

Source: Output SPSS 27

Tabel 3 Reliability Test Results

Variable	Cronbach's Alpha	Description
Ecopreneurship Development	0,797	Reliabie
Environmental Factor	0,788	Reliable
Social Factor	0,874	Reliable
Personal Factor	0,847	Reliable

Source: Output SPSS 27

According to Table 3 above, it can be stated that the Cronbach's Alpha value > 0.6 means that all questionnaire questions in this research variable are stated to be reliable.

Classical Assumption Test

a. Multicollinearity Test

The results of the correlation between independent variables (table 4) show that the social factor (fs) and personal factor (fp) variables are 0.083 or 8.3%; environmental factors (fl) and social factors (fs) are 0.203 or 20.3%; environmental factors and personal factors are 0.499 or 49.9%. The results of all correlations are far below 95% so it is said that there is no serious multicollinearity.

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Table 4 Multicollinearity Test Results

Model			fp	fs	Fl
1	Correlations	fp	1.000	.083	-.499
		fs	.083	1.000	-.203
		fl	-.499	-.203	1.000
	Covariances	fp	.008	.001	-.003
		fs	.001	.013	-.002
		fl	-.003	-.002	.006

a. Dependent Variable: ecopreneur

Source: Output SPSS 27

Tabel 5 VIF Result

Variable	*Tolerance*	*Variance Inlation Factor* (VIF)
Environmental Factor	.725	1.380
Sosial Factor	.958	1.043
Personal Facor	.751	1.332

Source: Output SPSS 27

The results state that the tolerance value exceeds 0.10, this means that there is no correlation between independent variables with values greater than 95%. The results of the VIF calculation in Table 5 show that there are no values exceeding 0. This indicates that the independent variables in the regression model do not exhibit multicollinearity.

b. Autocorrelation Test

Autocorrelation test is conducted by looking at the DW value in Table 6 of 2.145, compared to the significance table value of 5%, sample 30, and 3 independent variables (k = 3) du = 1.650. DW is greater than the upper limit (du) of 1.650, so it can be concluded that there is no autocorrelation.

Table 6: Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.510[a]	.260	.175	1.44472	2.145

a. Predictors: (Constant), fp, fs, fl

b. Dependent Variable: eco

Source: Output SPSS 27

c. Heteroscedasticity Test

A reliable regression model demonstrates homoscedasticity, meaning that heteroscedasticity is absent. In the scatterplot shown, the points are distributed randomly above and below zero on the Y-axis, indicating that the regression model under study does not have heteroscedasticity

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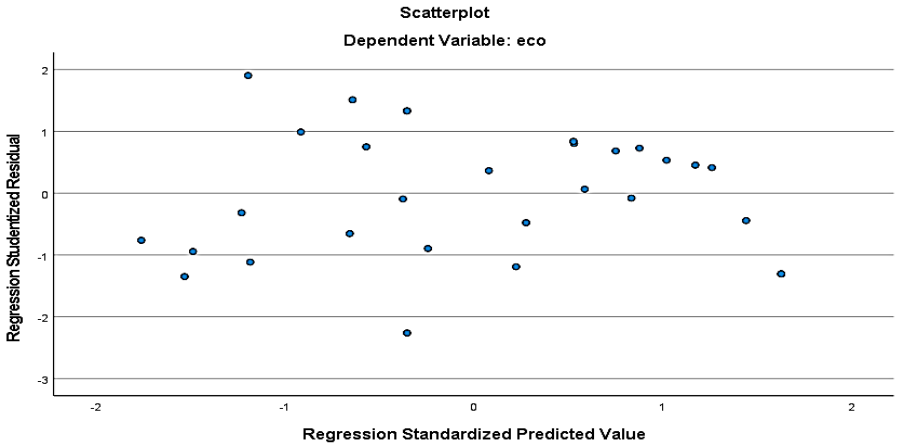

Figure 2. Heteroscedasticitys Test Result

Sour:ce Ouput SPSS 27

d. Normality Test

The normality test method is to look at the normal probability plot and the results of the Zskewness and Zkurtosis calculations. It is presented in the following figure that the distribution of data (dots) is spread around the diagonal line. This shows that the assumption of normality has been met.

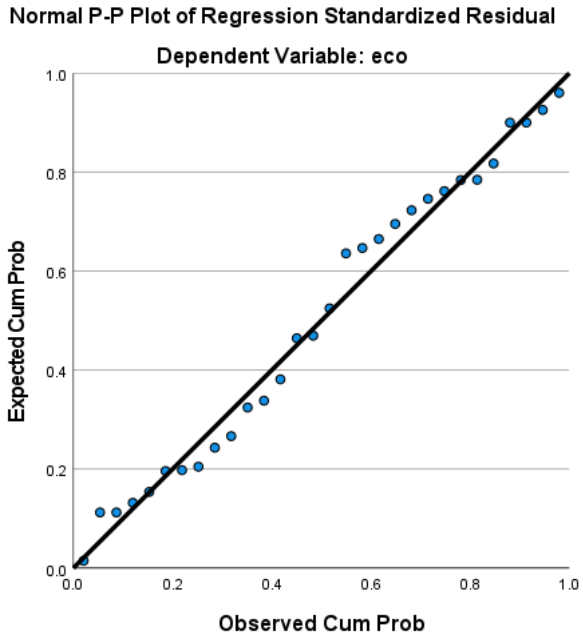

Figure 3. Normality Test Result

Sour:ce Ouput SPSS 27

In Table 7 below, the Zskewness and Zkurtosis values can be calculated, namely:
Zskewness = 0.427/√(6/30)= 0.95 Zkurtosis = 0.427/√(24/30)= 0.477

The results of the Zskewness and Zkurtosis calculations are below the Z table value = 2.042. Therefore, it can be inferred that the data follows a normal distribution, this is consistent with the normal probability plot graph test.

Table 7 Normality Test With Zskewness and Zkurtosis

N	Skewness		Kurtosis	
Statistic	Statistic	Std. Error	Statistic	Std. Error

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Unstandardized Residual	30	-.149	.427	-.546	.833
Valid N (listwise)	30				

Source: Output SPSS 27

2. Multiple Linear Regression Analysis

In the regression calculation carried out, the model summary value (Table 8) for R^2 was obtained = 0.435, this means that 43.5% of the ecopreneurship development variable is explained by three independent variables of personal factors, social factors and environmental factors.

Tabel 8 R Square Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.703[a]	.494	.435	1.19539

a. Predictors: (Constant), fp, fs, fl

Then the ANOVA test or F test (Table 9) obtained a value of 8.447 with a probability of 0.000. This probability value is smaller than 0.05 which indicates that personal factors, social factors and environmental factors together influence the development of ecopreneurship.

Tabel 9 F Test

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	36.214	3	12.071	8.447	.000[b]
	Residual	37.153	26	1.429		
	Total	73.367	29			

a. Dependent Variable: eco

b. Predictors: (Constant), fp, fs, fl

According to the outcomes presented in Table 10, the following multiple linear regression equation can be derived:

ECO = 0.223 + 0.186 fl + 0.049 fs + 0.191 fp + e

The results of this regression equation can be described as follows:

1. Constant (α)

The constant value (α) is known to be 0.223. This shows that if the personal factor variable, social factor and environmental factor = 0 then the predicted value of ecopreneurship development as a dependent variable is 0.223.

2. Environmental Factor Regression Coefficient of 0.186

The regression coefficient value on the environmental factor variable is known to be 0.186. This value shows a positive result which means that environmental factors have a unidirectional relationship with ecopreneurship development. This indicates that if the value of the environmental factor increases, it will be followed by an increase in ecopreneurship development.

3. Social Factor Regression Coefficient of 0.049

The social factor variable has a regression coefficient value of 0.049. This value is a positive result, meaning that social factors have a unidirectional relationship with ecopreneurship development. This indicates that if the value of the social factor increases, it will automatically be followed by an increase in ecopreneurship development.

4. Personal Factor Coefficient of 0.19

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The regression coefficient for the personal factor variable is 0.191, indicating a positive effect. This means that every one-unit increase in the personal factor leads to a rise in the development of ecopreneurship, provided that all other variables remain unchanged.

The t-test is used to assess the extent of the impact that each independent variable has on the dependent variable. For this hypothesis analysis, a significance level of 0.05 (α = 5%) is applied. The decision criteria are as follows: if the significance value exceeds 0.05, the hypothesis is rejected (indicating that the regression coefficient is not significant); if the significance value is less than 0.05, the hypothesis is accepted. The outcomes of the t-test are shown in Table 10.

Tabel 10 T Test Result

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.223	2.988		.075	.941
	fl	.186	.089	.347	2.099	.046
	fs	.049	.095	.075	.520	.608
	fp	.191	.072	.435	2.662	.013

a. Dependent Variable: eco *Sourcer: Ouput SPSS 27*

Referring to the t-test results in Table 10, the following explanation can be provided:

1. Hypothesis 1 of this study states that environmental factors have a significant positive effect on the development of ecopreneurship. From the calculation results presented in Table 10, the t-value of the environmental factor variable is 2.099 with a significant value of 0.046 <0.05, indicating that the environmental factor variable has a significant positive effect on the development of ecopreneurship. So it can be concluded that H1 proposed in this study is accepted as true
2. Hypothesis 2 proposes that personal factors positively and significantly influence the development of ecopreneurship. According to the results shown in Table 10, the t-value for the personal factor trust variable is 2.662, with a significance level of 0.013, which is below the 0.05 threshold. This indicates a significant positive effect of personal factors on ecopreneurship development. Therefore, it can be concluded that Hypothesis 2 is supported.
3. H3 in this study states that social factors have a significant positive effect on the development of ecopreneurship. Table 10 presents data that the t-value of the social factor variable is 0.520 with a significant value of 0.608> 0.05, which indicates that the social factor variable has no influence to the development of ecopreneurship. Therefore, Hypothesis 3 is not supported."

DISCUSSION

Refer to the outcomes of this research, it shows that the development of ecopreneurship in the plastic waste handicraft business is more influenced by personal (internal) and environmental (direct external) factors, rather than indirect social factors. Personal factors, such as environmental awareness, commitment, creativity, and a sense of social responsibility, are the main drivers in encouraging someone to become an ecopreneur. This is in accordance with the entrepreneurial intention theory, which emphasizes the importance of motivation and personal values. Schwartz's (1977) Moral Norm-Activation Theory in Saleem et all (2018) proposes that

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a behavior is more likely to occur when an individual becomes aware of the consequences of that behavior. The theory explains that altruistic actions stem from individuals' personal moral norms, which are activated when they recognize the potential negative impacts their behavior could have on others and believe that their actions can help mitigate these harmful effects.

Environmental factors also have a significant influence, especially in the context of the availability of recycled raw materials, support from the government or institutions, and market opportunities that are increasingly concerned about environmentally friendly products. As is known, in the last decade or so, environmental issues have been widely discussed. This has emerged along with the increasing public awareness in saving and preserving the environment because of the increasing amount of information about environmental damage both at the local and global levels. This environmental damage is due to economic development activities and the lack of public knowledge about environmentally friendly behavior, such as disposing of garbage in its place. The phenomenon of environmental damage and the importance of sustainable development have given rise to new economic activity movements such as the green economy, blue economy, circular economy, as well as ecopreneurship and wastepreneurship. This spurs practical and strategic encouragement for ecopreneurs to actively develop products and expand their business reach.

Meanwhile, social factors do not have a significant influence. This may be due to several things. First, limited social support from the surrounding environment, for example family or community that do not fully support or understand the values of ecopreneurship. Second, local culture may not yet make environmental issues a priority, thus social norms and values do not encourage ecopreneurial behavior. Third, entrepreneurs in this study may be more independent in determining choices or making decisions. Therefore, social influence is not a determining factor. The findings of this study are also consistent with several previous studies showing that in the context of environmentally based entrepreneurship, the role of individuals and external environmental systems is more dominant than social pressure or support. In addition, the age of the majority of respondents (19 out of 30 people) is 40-60 years, which is a mature age and has formed values or identity. So that personal factors are more dominant in making decisions.

Nevertheles, a research by Saleem et all (2018) indicate that ecopreneurship is primarily influenced by subjective norms (social pressure) and self-efficacy, whereas the attitude toward ecopreneurship becomes important only when collectivism and altruism are present.

CONCLUSION

This study aims to examine the effect of environmental factors, personal factors and social factors on the development of ecopreneurship in handicraft businesses from plastic waste. According to the outcomes of data analysis and discussion, it is concluded that:

1. Environmental factors have a significant influence on the development of ecopreneurship. External factors such as the availability of recycled raw materials, government policies, and market prospects for environmentally friendly products have proven to be able to encourage business actors to continue developing their businesses.
2. Personal factors also have a significant influence. Values, motivation, environmental awareness, and creativity of business actors are important drivers in the development of environmentally friendly businesses (ecopreneurship).
3. Social factors do not have a significant influence on the development of ecopreneurship. This indicates that social values, community norms, and community support have not become important factors in encouraging environmentally friendly entrepreneurial behavior in handicraft businesses from plastic waste. This is a challenge for the Surabaya

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city government to formulate policies that can foster social factors influencing the development of ecopreneurship.

Refer to the outcomes of this study, several recommendations are presented belo w:

1. For businessman, they should continue to increase their personal awareness and capacity regarding creativity, innovation, and responsibility for the environment. Given that this has proven to be a determining factor in the development of ecopreneurship.
2. For the government and stakeholders, they should continue to strengthen environmental support through the provision of recycling facilities, training, incentives, and market access that supports environmentally friendly businesses.
3. For society and communities, it is necessary to increase literacy and social awareness regarding environmentally friendly lifestyles and consumption. Thus, social norms and values will be formed that support the development of ecopreneurship.
4. For further researchers, it is recommended to explore more deeply the indicators of relevant social factors. It can also be combined with a qualitative approach to obtain a more comprehensive understanding of social dynamics in the context of ecopreneurship.

REFERENCES

Aminudin, N. 2019. Pemanfaatan Sampah Plastik Menjadi Kerajinan Tangan Guna Meningkatkan Kreatifitas Warga Sekitar Institut Teknologi dan Bisnis Ahmad Dahlan (ITB-AD) Jakarta. *Jurnal Abdimas BSI*, 66-79.

Ardhani, A.D., Yoga A. P. dan L. King. 2020. *Dua Sisi Mata Uang: Kebijakan Publik dan Penanganan Sampah Plastik di Indonesia,* Kementerian Sosial Politik dan Kajian Strategis BEM USD, https://usd.ac.id

Budiyono, H dan R. Setyawasih. 2016. Faktor Pribadi, Lingkungan, Dan Sosiologi Pada Tahap Inisiasi Proses Kewirausahaan Ikan Hias Di Kota Bekasi. *Jurnal Ilmiah Ekonomi Manajemen Dan Kewirausahaan "OPTIMAL",* 10(2): 101-127.

Echdar, S. 2013. *Manajemen Entrepreneurship*, CV. Andi Offset, Jogjakarta

Fahmi, R. W. R. (2021). Pemanfaatan Limbah Anorganik Sebagai Bentuk Implementasi Peduli Lingkungan Pada Masa PSBB Covid 19 Di Desa Kemiri. *IKRAITH ABDIMAS*, 110-118.

Saleem, Farida et all 2018: Intentions to adopt ecopreneurship: moderating role of collectivism and altruism, *The International Journal ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES*, ISSN 2345-0282 (online) http://jssidoi.org/jesi/Volume 6 Number 2, December http://doi.org/10.9770/jesi.2018.6.2(4)

Ghazali, I. 2018. *Aplikasi Analisis Multivariate Dengan Program IBM SPSS 25* (Edisi 9), Cetakan IX, Semarang: Badan Penerbit Universitas Diponegoro.

Gumelar, R. 2014. Pengaruh Status Sosial Ekonomi Terhadap Minat Berwirausaha Di Desa Jururejo Kecamatan Ngawi Kabupaten Ngawi. *EQUILIBRIUM*, 2(2): 167-178

Kamus Besar Bahasa Indonesia, KBBI, https://kbbi.web.id

Khamimah, W. 2021. Peran Ecopreneurship Dalam Mengatasi Sampah Plastik di Surabaya (Studi Kasus Pada Asri Recycle Mojo Surabaya). *JEBDEKER, Jurnal Ekonomi, Manajemen, Akuntansi Bisnis Digital, Ekonomi Kreatif, dan Entrepreneur.* 2(2): 11-18

IJEBE INTERNATIONAL JOURNAL OF ECONOMICS, BUSINESS AND ENTREPRENEURSHIP

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Lubis, R.L.2015. *The Triple Drivers of Ecopreneurial Action for Taking the Recycling Habits To The Next Level: A Case of Bandung City, Indonesia*, *International Journal of Multidisciplinary Thought,* 05(02):17-48

Masjud, Y.I. 2020. Ecopreneurship As A Solution To Environmental Problems: Implications For University Entrepreneurship Education, *Journal of Environmental Science and Sustainable Development*, 3(1), 97-113,

Potlur, S., dan Phani B V. 2019: *Waste-preneurship: A model of Environmental Benefit,* https://www.researchgate.net/publication/335739939

Pradita, T. 2013. *Kajian Implementasi Aspek-aspek Ecopreneurship Pada Bisnis Bidang Fashion, https://openlibrary.telkomuniversity.ac.id*

Pujiati, (2025), Ukuran Sampel :Faktor, Rumus, Cara Menentukan Ukuran, https://penerbitdeepublish.com/ukuran-sampel, 15 Juni

Putra, H.P. dan Y. Yuriandala. 2010. Studi Pemanfaatan Sampah Plastik Menjadi Produk dan Jasa Kreatif. *Jurnal Sains dan Teknologi Lingkungan*, 2(1):21-31.

Sasongko, S. dan G. Anggadwita. 2016. Ecopreneurship Implementation for Environment and Economic Sustainability, Advances in Economics, Business and Management Research, 15(1). 1st *Global Conference on Business, Management and Entreupreuneurship (GCBME-16)*

Schuyler, G. 1997, *Merging Economic and Environmental Concerns through Ecopreneurship.* Digest Number 98-8, https://eric.ed.gov

Sukoco, I., dan H.A. Muhyi. 2015. Ecopreneurship Dalam Menumbuhkan Usaha Berwawasan Lingkungan Pada Sentra Industri Penyamakan Kulit Sukaregang Kabupaten Garut, *Sosiohumaniora*, 17(2),156-165.

Tiara, D R., Iswanto dan A. Suyanto. 2018. *Pengaruh Model Tempat Sampah Pencacah Plastik Terhadap Penurunan Volume Dan Peningkatan Nilai Ekonomi Sampah.* http://eprints.poltekkesjogja.ac.id/1083

Untari, D.T. 2013. *Ecopreneurship Dalam Konsep Pembangunan Yang Berkelanjutan*, https://jp.febunsoed.ac.id

Undang-Undang Republik Indonesia Nomor 32 Tahun 2009 Tentang Perlindungan Dan Pengelolaan Lingkungan Hidup. https://www.ngada.org

Wahyuni, Dwi et all (2016), The Development Strategy of Ecopreneurship-Based Tourism Village (The Development Research of The Tourism Village In Desa Wonomerto Kecamatan Wonosalam Kabupaten Jombang), *International Conference on Education For Economics, Business, and Finance (ICEEBF).*

Wiyono, G. 2011, *Merancang Penelitian Bisnis: Dengan Alat SPSS dan SmartPLS*, STIM YKPN Yogyakarta.

Yani, A. (2021). Pengelolaan Limbah Plastik Menjadi Bahan Bakar Minyak Untuk Mengatasi Sampah Plastik di Kota Bontang. *Jurnal Sains Terapan*, 36-41.

https://www.jdih.surabaya.go.id. Peraturan Daerah Kota Surabaya Nomor 5 Tahun 2014 Tentang Pengelolaan Sampah Dan Kebersihan di Kota Surabaya,

https://surabayakota.bps.go.id/id/publication/2025/02/28/bd1f25e59ae790cc8a7c0c07/kota-surabaya-dalam-angka-2025.html

https://www.unescap.org/sites/default/d8files/event-documents/SB%20Baseline%20Report_Bahasa.pdf

https://www.cnnindonesia.com, 23 Pebruari 2016: Indonesia Penyumbang Sampah Plastik Terbesar Kedua Dunia