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# The Determinants of Pro-Environmental Behavior Among Accounting Students in Indonesia

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*Accounting Students; Pro-Environmental Behavior; University Support*

## Abstract

The objective of the study is to examine the influence of environmental literacy, University Supports on pro-environmental behavior by identifying environmental attitudes. The main contribution of this research is to give a description for higher education to integrate and to provide support or stimulus for students to behave pro-environment. The samples of this study are 304 accounting students from several universities in Indonesia. Data are analyzed with descriptive statistics and hypothesis testing. The hypothesis testing of this study uses Partial least squares (PLS) path modeling. Result shows that University Supports affect the environmental literacy. Attitude also acts as a mediating variable between University Supports to pro environmental behavior. But instead the environmental literacy had no effect on environmental pro behavior. Likewise, attitude also has no role in mediating the relationship.

## *How to Cite*

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## INTRODUCTION

Indonesia has serious environmental problems. Based on data from the Environmental Quality Index (Indeks Kualitas Lingkungan Hidup/ IKLH), there are 300 environmental cases, including forest fires, environmental pollution, and the decline in water quality, air quality and land cover quality. Data from Forest Watch Indonesia (FWI) shows that Indonesia is the country with the highest deforestation in the world. It is supported with the IKLH data that forest narrowing reaches 2.4 million hectares per year which results in 43% of forest loss in Indonesia. The main problem of environmental damage comes from human behavior which is less concerned with the environment Latifah et al. (2023).

Environmental behavior as stated by Stern's study is the behavior which can change the material or energy availability from the environment or can change the structure and dynamics of the ecosystem/ biosphere. According to data from Indonesia in 2016 illegal logging behavior due to business behavior in Indonesia were about 2,494 cases from 2004-2012 for illegal plantation and mining land. Moreover; the behavior in maintaining clean water is also very bad. KLH 2016 statistical data shows that B3 waste generated by human behavior were 125,540,827.76 tons from 269 companies in the mining, energy and oil and gas sector, manufacturing sector, agroindustry sector and infrastructure and services sector.

Then, trashing behavior in the river makes floods in almost all cities in Indonesia. This human behavior can be managed and directed into pro-environmental behavior; then environmental impacts can be minimized. Pro-environmental behavior refers to behaviors which minimize the environmental impacts and save the environment [33].

Each individual has different behavior towards the environment. There are various theories which try to explain the relationship among humans and nature. The New Environmental Paradigm explains the relationship between humans and nature and it views that humans are part of the natural environment. Whereas; according to the theory of Value Belief Model, the differences in one's value orientation lead people to behave differently. Schultz et. al. argue that environmental attitudes and concerns are based on individual beliefs about the extent to which a human is an integral part of the natural environment. According to De Groot & Van den Born Latifah et al. (2023).the typology human nature relationships is divided into humans as an adventurer and an explorer of nature; humans are responsible for nature and humans who participate in nature. Human behavior towards the environment and nature in Indonesia still reflects on the human stage as the nature adventurer and explorer.

Several parties have tried in various ways to preserve the environment, including the government and NGOs from home and abroad. The government has enacted the Law No. 32/2009 on Environmental Protection and Management, the Indonesian Presidential Regulation No. 16/2015 (article 2,3,4) and the Minister of Environment Regulation No. P18 / MenLHKII / 2015. However; there are violations of the law and regulations which do not get any punishment and severe sanctions; thus; these bad behaviors which damages the environment are increasing. There are some volunteers engaged in environmental sustainability NGOs include Forest Watch Indonesia, Go green Indonesia, Greenomics Indonesia, and KEHATI which carried out many activities to preserve the environment. But it is hard to change environmental damage behavior. It needs cooperation from various parties to change the bad behavior into pro-environmental behavior.

According to Cerda Latifah et al. (2023).the solutions to those environmental problems are not only through the creation of appropriate technology but also the strategy to change human behavior. The pro-environmental behavior can create sustainability in the future Latifah et al. (2023). A person can make a significant contribution in achieving

environmental sustainability by adopting a pattern of pro-environmental behavior Then, Thoradeniya et al. Latifah et al. (2023).prove that to get the good behavior on the environment, it needs education. According UNESCO in 2009 it is included higher education which plays a fundamental role in educating and training professionals to be the active roles in giving protection for the environment. The profession of accountants as a part of business organizations has a big role to reduce the impact of environmental damage due to business activities. The accountant's behavior is required to provide information about the company's environmental performance. Pro-environmental behavior is often associated with three activities; they are preventing pollution, internalizing environmental management and having innovation for eco-efficiency Latifah et al. (2023).

There are many previous researches on the factors influencing pro-environmental behavior. The good behavior towards the environment is influenced by internal and external factors Latifah et al. (2023). The internal factors influencing pro-environmental behavior include environmental awareness Latifah et al. (2023).attitude, personal responsibility and locus of control Latifah et al. (2023).Then, the research conducted by Brooks in 2010 Latifah et al. (2023).also state that external factors; such as family, school, community, mass media, economic situation, media and infrastructure also affect behavior towards environment. According to Heyl et al Latifah et al. (2023), they also include economic, social and institutional circumstances. There are many studies on pro-environmental behavior and the limitations of the study are more focused on cognitive determinants of pro-environmental behavior Latifah et al. (2023).

If the factors causing someone to behave pro-environmental can be found, then the intervention strategy can be used. For example, if the behavior is influenced by someone's attitude, then it can direct attitudes to pro-environmental behavior. If there are factors hindering pro-environmental behavior, then we can try to eliminate these obstacles Latifah et al. (2023).If someone behaves un-green, it will harm the environmental performance of the organization Latifah et al. (2023). Thus; it is very important to know the factors influencing a person to behave pro-environmentally. The objective of the study is to examine the influence of environmental literacy, University Supports on pro-environmental behavior by identifying environmental attitudes. The main contribution of this research is to give a description for higher education to integrate and to provide support or stimulus for students to behave pro-environment.

The organizational structure for the article is as follows: at first, discussing the introduction, the second, literature review, the three, the research methods, then, results and the discussion and ended with conclusions, limitations of research and future research agendas.

Social Cognitive Theory states that most human learning takes place in social environment. By observing others, humans acquire knowledge, rules, skills, strategies, beliefs, and attitudes. Humans also see examples or models to study the usefulness and suitability of behavior and the consequences of modeled behavior. In the three-sided reciprocal causality model described by Bandura, there are three factors which interact with each other, they are people, behavior, and the environment.

Pro-environmental behavior refers to one's active response to various environmental issues. A behavior is usually a response from attitude Latifah et al. (2023).and attitude is also found to be a predictor of behavior Latifah et al. (2023). Environmental awareness and pro-environmental behavior are influenced by value, attitude and knowledge Latifah et al. (2023). University Supports and environmental literacy can be the factors determining pro-environmental behavior for students. After students get knowledge about the environment from the curriculum and environmental literacy supported by the university environment; it is a conservation university. Then, it is expected that students will have a

pro-environmental attitude and behavior by always carrying out protection, preservation, and utilization of natural resources wisely and prudently. Thus; the hypotheses are:
H1: There is an influence of University Support on pro-environmental behavior
H2: There is an influence of environmental literacy on pro-environmental behavior
H3: There is an influence of University Support on the pro-environmental attitude
H4: There is an influence of environmental literacy on the pro-environmental attitude

Attitudes are motivational, emotional and cognitive processes related to environmental aspects Latifah et al. (2023). According to Fishbein Latifah et al. (2023), he argues that attitude helps a person adjust to the environment and provide stability of behavior and understand the other behaviors. The relationship between attitude and behavior can be explained through cognitive dissonance theory. The theory put forward by Festinger Latifah et al. (2023), she states that to change one's behavior is needs to change their attitude first. Understanding environmental attitudes is very important because they will face environmental issues and all parties are responsible for maintaining environmental sustainability Latifah et al. (2023). Thus, the hypothesis is:
H5: There is an influence of environmental attitude on pro-environmental behavior

**Environment**

Social cognitive theory presented by Bandura Latifah et al. (2023), states that humans can think and regulate their own behavior, humans can learn to do things just by observing and repeating what they see. Humans and the environment interact each other to produce further behavior. In line with this theory, the university environment designed in such a way to support the creation of environmental sustainability which will raise academicians' awareness in pro-environmental behavior.

Erdogan et al Latifah et al. (2023), mention that literacy is the basic knowledge in a particular area, the ability to read and write, and to have knowledge and information in certain field and actions without any mistakes. In other words, environmental literacy is a basic function of education for all people, which provides basic knowledge, skills and motives to address environmental needs and contribute to sustainable development Latifah et al. (2023). Environmental literacy is built on the ecological paradigm. It is the ability to understand and interpret the health of environmental systems and to take appropriate actions in order to maintain, restore, or improve the health of the environmental system Latifah et al. (2023).Environmental literacy is an individual's knowledge and understanding of concepts and principles happening in the environment Latifah et al. (2023).

The previous researches which discuss the relationship between environmental knowledge on environmental behavior give different results. Some researchers report that there is an increase on environmental behavior and environmental awareness from environmental courses. But on the other hand, the results of Newhouse's Latifah et al. (2023) study, it indicates that environmental attitudes are more donating to create experiences than just courses or programs. The differences among the results of the studies encourage the question whether there is any mediating variable which will strengthen the relationship between environmental literacy and the pro-environmental behavior. Thus; the researcher proposes a hypothesis with attitude variable as the intervening variable.
H6: There is an indirect influence of environmental literacy on environmental behavior with attitude as the intervening variable.
H7: There is an indirect influence of the University Supports on environmental behavior with attitude as the intervening variable

Then; the conceptual framework model can be described in the Figure 1.

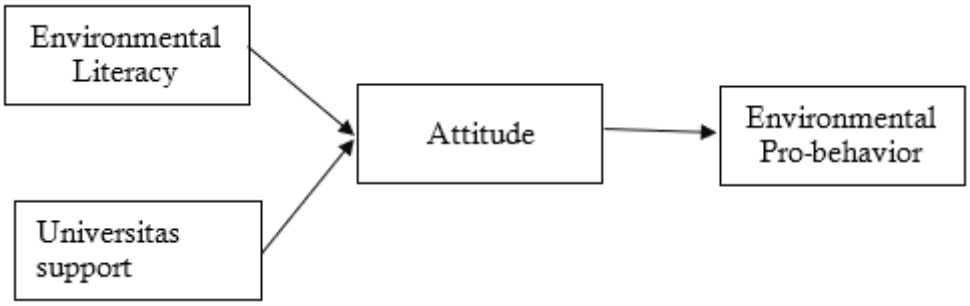


**Figure 1.** Research Model

## METHODS

### Sample

The samples of this study are 304 accounting students from several universities in Indonesia. The students are from 12 universities covering the regions of Java, Sumatra, Kalimantan, Sulawesi and Papua. They are 8th semester accounting students because of two (2) reasons. First, students have taken all the available theories. Second, students have known the university environment well. The data are collected with online questionnaire using Google Doc to get quick responses. There are 46 questions representing the indicators to measure environmental literacy, University Support, environmental attitude and environmental behavior variables.

### Measurement

*University support*

There are 10 questions describing the university activities which support pro-environmental activities. The questionnaire uses 5 Likert scales ranging from 1 up to 5; they are never up to always. The question items developed from indicators refer to Saputro Latifah et al. (2023).they are: (1) Maintaining and caring for buildings and university environments; (2) Developing the activities which support the development of the environment; (3) The creativity and innovation of the academic community to protect and to manage the environment; (4) Real environmental actions; (5) Utilizing university land and facilities fit to the principles of environmental protection and management.

*Environmental literacy*

Students 'environmental literacy is measured with a test which can describe students' knowledge on the environment. There are 16 questions developed from the indicators by Erdogan et al Latifah et al. (2023); they are; (1) Ecological Knowledge; (2) Socio-Political Knowledge; (3) Environmental Issues Knowledge; (4) Affective Skills; (5) Cognitive Skills; and (6) Environmental Responsibility. The questions on environmental literacy have five (5) answer choices and respondents are asked to choose the most appropriate answer.

*Environmental attitude*

The instrument for measuring environmental attitude uses 10 question items which describe students' attitudes on their environment. There are 5 choices of respondent's answers starting from 1 (strongly agree), 2 (agree), 3 (neutral) 4 (disagree), and 5 (strongly disagree). The question items are modified from the measurement scales developed by Latifah et al. (2023).

*Pro-environmental behavior*

The measurement of pro-environmental behavior uses 10 questions by modifying the questionnaire developed by Leeuw et al Latifah et al. (2023). The questionnaire uses Likert scale with answer choices ranging from 1 (strongly agree), 2 (agree), 3 (neutral) 4 (disagree), and 5 (strongly disagree).

### Data analysis

Data are analyzed with descriptive statistics and hypothesis testing. The hypothesis

testing of this study uses Partial least squares (PLS) path modeling. Then; the development of the model to be tested. The model was analyzed using Smart-PLS software.

Pro Environmental Behavior = β1Env Literacy + β2Univ Circumstanse + β3Attitude + β4 Environmental Literacy*Attitude + β5 University Support*Attitude.

## RESULTS AND DISCUSSION

Data analysis in this study uses Partial Least Square (PLS) which principally analyzes several blocks of interconnected variables in the form of path diagrams [36]. PLS methods analysis give explanation wether there is a correlation whitin variables and teoritical confirm Latifah et al. (2023). There are two step in the PLS analysis, namely evaluation of the measurement model (outer model) and evaluation of structural model (inner model).

**Stage 1 : Measurement model (Outer Model)**

This measurement model is used to show how the observed variable represents the latent variable. The results of this measurement model are shown in Table 1.

Based on Table 1, information is obtained that the discriminant validity value of each construct has a value of more than 0.50. According to the guidelines of Fornell and Larcker Latifah et al. (2023).the model requirements are good if the AVE of each construct has a value of more than 0.50. This means that each construct is valid and qualifies as a measuring instrument. While the reliability results can be seen from the value of Cronbach's alpha and composite reliability. Based on Nunnally and Bernstein Latifah et al. (2023). it can be said that when the construct has a conbrach's alpha value above 0.70, except for the attitude construct with a value of 0.543. However, when viewed from composite reliability, all constructs have a value above 0.70.

As can be seen on table 1, it is obtained information that the value of discriminant validity of each construct has a value of more than 0.50. According to the guidelines of Fornell and Larcker Latifah et al. (2023).the model requirements are good if the AVE of each construct has a value of more than 0.50. This means that each construct is valid and meets the requirements as a measuring tool. While the reliability results can be seen from the value of Cronbach's alpha and composite reliability. Guided by Nunnally and Bernstein Latifah et al. (2023).it can be said that when the construct has a conbrach's alpha value above 0.70 except the construct attitude with a value of 0.543. However, when viewed from composite reliability, all constructs have values above 0.70.

The results of the descriptive analysis for each construct are presented in Table 2.

**Table 1.** Measurement Model Result Test

| Construct | Average Variance Extracted | Cronbach's Alpha | Composite Reliability |
|---|---|---|---|
| Attitude | 0.543 | 0.576 | 0.778 |
| Environmental Literacy | 1.000 | 1.000 | 1.000 |
| Environmental Pro Behavior | 0.509 | 0.762 | 0.838 |
| University Support | 0.608 | 0.875 | 0.903 |

**Table 2.** Descriptive Statistics of Each Construction

| Construct | Number of Item | Min | Max | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Attitude | 3 | 3 | 15 | 10.48 | 1.999 |
| Environmental Literacy | 1 | 25 | 87 | 58.0417 | 13.7 |
| Environmental Pro Behavior | 5 | 6 | 25 | 15.91 | 3.674 |
| University Support | 6 | 6 | 30 | 18.32 | 4.836 |

**Stage 2: Testing structural models**

The structural model test results can be seen from the results of the R-square or the goodness fit model test.

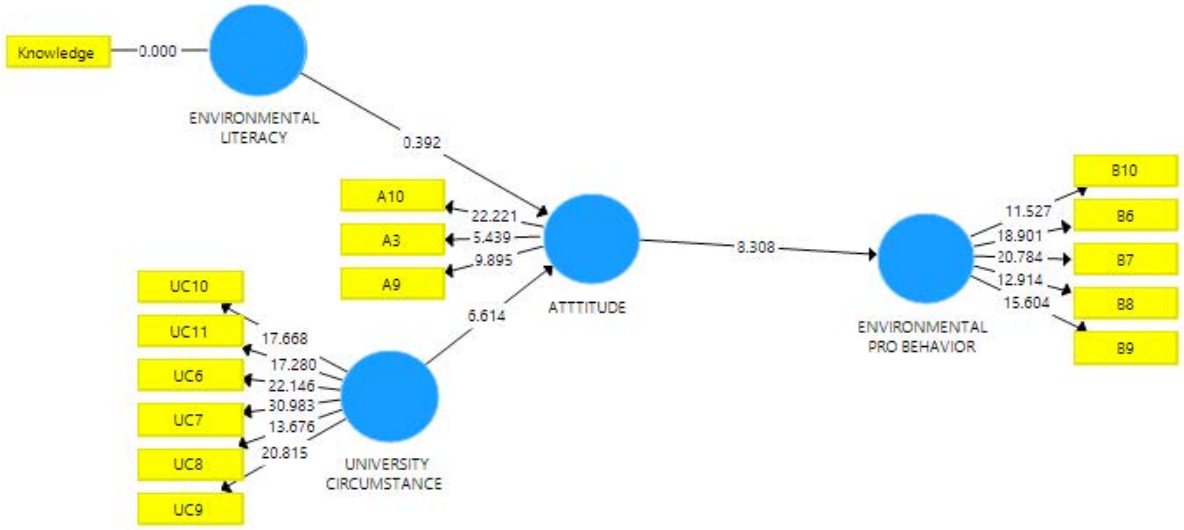


**Figure 2.** Structural Model

**Table 3.** Structural Path Estimates

| Independent | Dependent | Parameter estimate | Standart eror | t statistic |
|---|---|---|---|---|
| Attitude | Environmental Pro Behavior | 0.384 | 0.046 | 8.306** |
| Environmental Literacy | Environmental Pro Behavior | 0.022 | 0.055 | 0.392ns |
| University Support | Environmental Pro Behavior | 0.306 | 0.046 | 6.614** |
| Environmental Literacy*Attitude | Environmental Pro Behavior | 0.008 | 0.022 | 0.706ns |
| University Support*Attitude | Environmental Pro Behavior | 0.117 | 0.030 | 3.930** |

Based on the results of the inner model test presented in Table 3 shows that Hypothesis one is accepted. T statistic value of University Support influence on environmental pro behavior is 6.614 with p <0.005. This means that it can be proven empirically that university conditions have a positive effect on the pro environmental behavior.

Hypothesis two states that there is an influence of environmental literacy on pro environmental behavior. Based on table 3, it is obtained data that the t-value of the results of the test of the effect of environmental literacy on the pro environmental behavior is 0.392 with p> 0.05 so the second hypothesis is not accepted. Thus this research cannot provide empirical evidence about the effect of environmental literacy on pro environmental behavior.

Meanwhile the third hypothesis states that there is an influence of attitude on the pro environmental behavior. Based on the test data using smart pls shows that the t statistic value is 8.306 with p <0.05. These results indicate that there is a positive influence on attitude to environmental pro behavior.

The hypothesis of the four posits that there is an indirect influence of environmental literacy on environmental behavior by being mediated by attitude variables. The test results shown in table 3 show that the statistical t value is 0.706 with p> 0.05, which means that the fourth hypothesis is rejected. This study failed to provide empirical evidence of the influence of environmental literacy on environmental behavior by mediating attitude.

The fifth hypothesis reads that there is an indirect influence on the campus environment on environmental behavior by mediating attitude. The data contained in table 3 provides information that the statistical value of the fifth hypothesis test is 3,930 with a value of p <005 which means the hypothesis five is accepted.

**Discussion**

This study provides information that Environmental literacy of accounting students in Indonesia is still low. The average test score of students' knowledge about the environment is 58. Respondents answer issues relating to (1) Ecological Knowledge; (2) Socio-Political Knowledge; (3) Knowledge of Environmental Issues; (4) Affective Skills; (5) Cognitive Skills; (6) Environmental Responsibility. This needs to be considered for the university to provide more knowledge about environmental issues. Some universities have provided special environmental courses and included them in the curriculum, but most universities rely on several subjects such as management accounting and business introduction in integrating environmental knowledge to students. Although the environmental literacy of respondents was low, the attitude of accounting students regarding the environment was high. While environmental pro behavior is classified as moderate. It is possible that there is support from the university to care for the environment.

The results of this study indicate that the state of the university is positive about the pro-environmental behavior of accounting students. Through policies and means of environmental conservation that are proven by the pro-environment behavior of students. The results showed that the environment of student literacy did not affect the behavior of the student environment. This is different from the results of the research by Bradley et al Latifah et al. (2023).increased knowledge may help improve environmental attitude.

## CONCLUSION

This study aims to examine the influence of University Supports and environmental literacy on the pro environmental behavior of students. In addition, this study also examined the role of attitude in mediating the influence of University Supports and environmental literacy on pro environmental behavior. Based on the results of research on 300 accounting students at several universities in Indonesia, it shows that University Supports affect the environmental literacy. Attitude also acts as a mediating variable between University Supports

to pro environmental behavior. But instead the environmental literacy had no effect on environmental pro behavior. Likewise, attitude also has no role in mediating the relationship.

This study has limitations including environmental literacy measurements which only consist of 16 questions, it is not considered comprehensive enough to test environmental literacy of students. Based on the test results of the outer model, many indicator items are omitted because it has a loading factor of less than 0.50. Subsequent research is expected to develop a more complete and comprehensive environmental literacy testing.

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